A. I. A. File No. 14d

VULCAN RAIL & CONSTRUCTION COMPANY

A. I. A. File No. 14d

PIPE RAILINGS • FENCES and SPECIAL CONSTRUCTION

for

BRIDGES, BOARDWALKS, AUDITORIUMS,
VIADUCTS, STADIA, PRISONS, BARRACKS,
RAILROADS, SUBWAYS, POWER AND
INDUSTRIAL PLANTS AND ALL OTHER
TYPES OF BUILDINGS

VULCAN RAIL & CONSTRUCTION CO.
Main Office and Works
GRAND STREET and GARRISON AVENUE
MASPETH, N. Y.
Branch Office and Works
39th STREET & A. V. R. R., PITTSBURGH, PENNSYLVANIA

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SPECIFICATIONS for PIPE RAILING

PIPE Railings where indicated shall be three feet high[1] as shown and constructed of 1½″[2] Standard Weight Wrought Steel[3] First Quality Pipe. Fittings to be Standard Vulcan Railing Type of Malleable Iron. Flanges to be Vulcan Standard Cast Iron and where attached to concrete or masonry shall be fastened with expansion bolts, and where attached to Steel shall be fastened with machine bolts in accordance with Detail.

Where threads occur in the connection of Pipe and Fittings they shall be concealed.

The Posts shall not be spaced more than 6′0″ c. to c.[4].

All Pipe and Fittings shall be black, painted one Shop coat of Red Lead and Oil[5] in an approved manner.

All materials and workmanship shall be first class in every respect.

The above is a Standard Specification but changes should be made in accordance with the following recommendations to meet other conditions:—

1. HEIGHT OF RAILING: We recommend on single-line Railings a height of 2′6″ from finished floor to center of top Rail; on two-line Railings a height of 3′0″ from finished floor to center of Top Rail and on three-line Railings a height of 3′6″ from finished floor to center of Top Rail.

2. NOMINAL SIZE OF PIPE in all cases shall be the inside diameter of the Pipe.

3. KIND OF PIPE shall be Standard Weight Wrought Steel; Copper Bearing Steel; or Genuine Wrought Iron.

4. SPACING OF POSTS: We recommend the following maximum spacing for Posts for the various sizes of Pipe:

1¼″ & 1½″	6′0″ c. to c.
2″	8′0″ c. to c.

5. FINISH of Railings shall mean either (a) painted, in which case all Pipe and Fittings shall be Black, thoroughly cleaned and painted one Shop coat of Paint as specified; (b) Galvanized, in which case all Pipe and Fittings shall be Commercially Galvanized in accordance with Standard practice.

INTRODUCTORY

AN EXPERIENCE of twenty-eight years in the fabrication and erection of Pipe Railings, Bridge Railings and other similar construction, enables us to place before you for consideration a service organization that was especially developed to execute this particular type of construction.

Every effort is made to constantly maintain our high standard in workmanship and materials. All work is handled by men with years of experience and especially trained in the Vulcan Method of Railing Design.

The range of our facilities cannot be properly covered in a limited catalogue, therefore we welcome inquiries covering any special Design requiring Pipe and Fittings as the basic principle.

Our Engineering Staff, competent to design any railing equipment to meet exact conditions, will gladly co-operate and submit plans.

In presenting this catalogue we are endeavoring to show representative examples of Vulcan Railings as executed throughout the country.

We take this opportunity to express our sincere appreciation to our many good clients who have entrusted work to our care.

◆

FACILITIES

Our main Plant at Maspeth, N. Y., and Branch Shops at Pittsburgh, Pa., are fully equipped to manufacture Railing Products and, with trained forces of skilled and experienced workmen, insure prompt and efficient execution of all orders. Both Plants are located on main line Railroads and have private sidings.

SERVICE TO ARCHITECTS AND ENGINEERS

We offer to Architects and Engineers the service of our Engineering Department in the planning of any Railing Equipment or in the solution of any other problem involving the use of Pipe and Fittings in construction work.

PURPOSE

We are, as our name indicates, a Railing Manufacturing and Construction Company. We will undertake the complete design, fabrication and erection of any Product within the range of our facilities, or will fabricate and erect from Architects' Plans and Specifications.

We guarantee that all Materials will be as specified, and that the finished Work will be of the highest quality possible, as regards materials and workmanship. In addition all work is guaranteed to give the service for which it is intended.

PRODUCTS

PIPE RAILINGS, FENCES *and* SPECIAL CONSTRUCTION

for

Areas
Armories
Auditoriums
Awnings
Barracks Buildings
Board walks
Bridges and Viaducts
Buildings
Canopies
Cattle Pens
Coal Trestles and Pockets
Cow Stalls
Dairy Buildings
Elevated Structures
Enclosures
Factory Buildings
Fire Towers
Grade Crossing Eliminations
Grand Stands
Guard Rails Around Machinery
Gymnasiums
Incinerating Plants
Oil Refineries
Pier Sheds
Prisons
Process Plants
Railroad Stations
Ramp Garages
Schools
Sewage Treatment Plants
Shelters
Shipyards
Signal Bridges
Skating Rinks
Stadia
Stairs
Sugar Refineries
Swimming Pools
Tank Towers
Theatres
Toilet Partitions
Traffic Platforms
Walkways
Warehouses
Water Works

SPECIAL PIPE WORK

for

Fur Storage Racks
Ladders
Lamp Brackets
Manhole Guards
Pipe Columns
Platform Shelters
Roof Enclosures
Rug Racks
Saddle Racks
Sign Frames
Shelving
Table Supports
Tennis Courts
Trunk Racks
Turnstiles

STAIRS, LADDERS, ETC., *with* RAILINGS

for

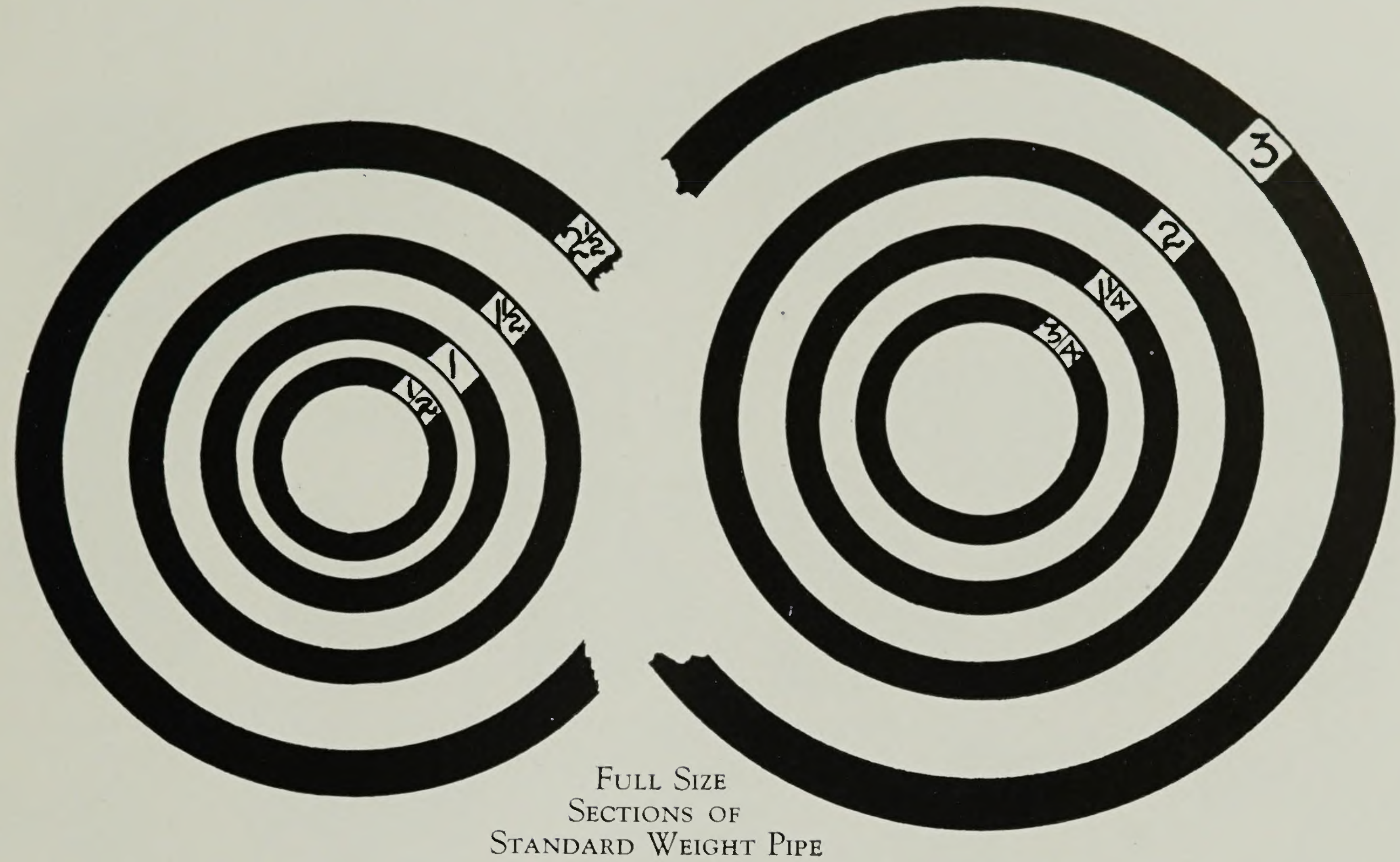
Coal Breakers and Tipples
Subways
Dams
Power Plants
Hydroelectric Plants

SPECIFIC INFORMATION

COMPLETE information, including estimates and preliminary designs for any of the products illustrated or listed under "Products," will be promptly supplied on request.

Contracts executed in any part of the United States or Canada.

In the Railings made solely of Pipe and Fittings a great variety of conditions can be met and a varied effect can be produced by the use of different types of Posts, which are indicated on pages 28 and 29 in this Catalogue.



Full Size
Sections of
Standard Weight Pipe

GENERAL INFORMATION REGARDING STANDARD WEIGHT PIPE

Nominal size pipe, inches	½	¾	1	1¼	1½	2	2½	3	3½	4	4½
Actual inside diameter, inches	.62	.82	1.04	1.38	1.61	2.06	2.46	3.06	3.56	4.02	4.50
Actual outside diameter, inches	.84	1.05	1.31	1.66	1.90	2.37	2.87	3.50	4.00	4.50	5.00
Approximate outside, inches	⅞	1$\frac{1}{16}$	1$\frac{5}{16}$	1$\frac{11}{16}$	1$\frac{15}{16}$	2⅜	2⅞	3½	4	4½	5
Weight per foot, pounds	.84	1.12	1.67	2.24	2.68	3.61	5.74	7.54	9.00	10.66	12.34
List price per foot	.08½	.11½	.17	.23	.27½	.37	.58½	.76½	.92	1.09	1.27

IN manufacturing our railings, etc., we use First Quality Standard Weight Wrought Steel Pipe of the dimensions and weights given above. Occasionally there are conditions which necessitate the use of heavier pipe than the Standard Weight, in which cases we use Extra Strong Pipe of the dimensions and weights given in list below.

Steel Pipe having a certain percentage of copper in its content, and thereby possessing certain rust resisting qualities, is procurable in both Standard Weight and Extra Strong sizes, at a slight increase in cost.

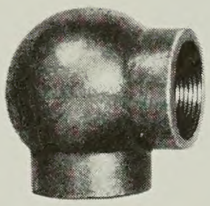
The term Wrought Iron has heretofore been used in designating all Wrought Pipe. This dates back to the days before Steel Pipe became the commercial product which it is today, and unless Genuine Wrought Iron Pipe is specified, Standard Steel Pipe will be furnished.

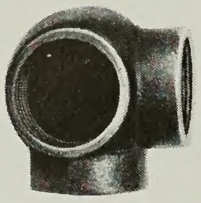
Genuine Wrought Iron Pipe can be supplied, but the cost is considerably higher.

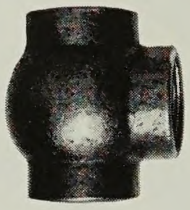
GENERAL INFORMATION REGARDING EXTRA STRONG PIPE

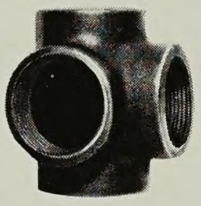
Nominal size pipe, inches	½	¾	1	1¼	1½	2	2½	3	3½	4	4½
Actual inside diameter, inches	.54	.74	.95	1.27	1.50	1.93	2.32	2.90	3.36	3.82	4.29
Actual outside diameter, inches	.84	1.05	1.31	1.66	1.90	2.37	2.87	3.50	4.00	4.50	5.00
Approximate outside, inches	⅞	1$\frac{1}{16}$	1$\frac{5}{16}$	1$\frac{11}{16}$	1$\frac{15}{16}$	2⅜	2⅞	3½	4	4½	5
Weight per foot, pounds	1.09	1.48	2.17	3.00	3.63	5.02	7.66	10.25	12.51	14.98	17.61
List price per foot	.11	.15	.22	.30	.36½	.50½	.77	1.03	1.25	1.50	1.80

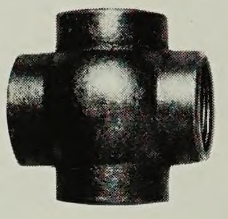
VULCAN STANDARD BALL TYPE LEVEL RAILING FITTINGS

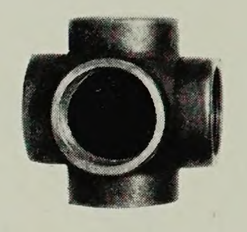

Elbow


Side Outlet
Elbow

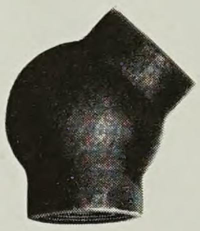

Tee

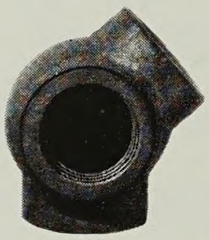

Side Outlet
Tee

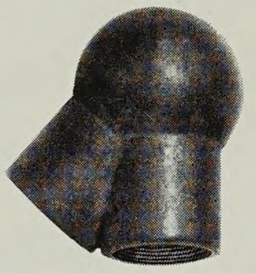

Cross

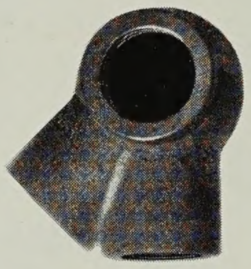

Side Outlet
Cross

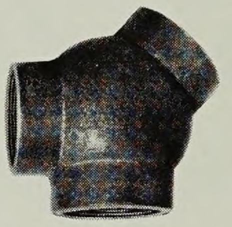
VULCAN STANDARD BALL TYPE ANGLE RAILING FITTINGS

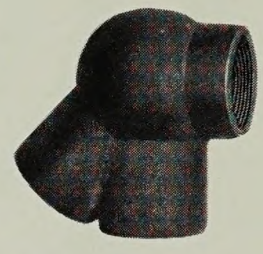

Lower Elbow

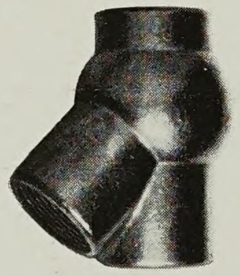

Side Outlet
Lower Elbow

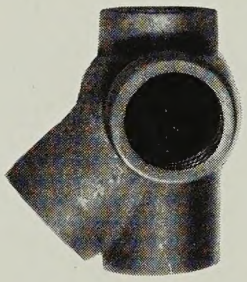

Upper Elbow

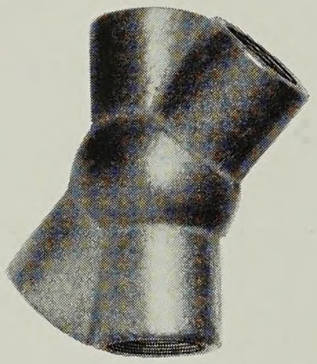

Side Outlet
Upper Elbow

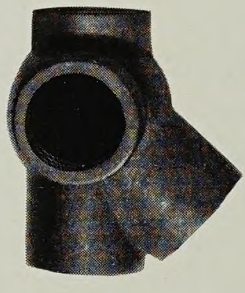

Back Outlet
Lower Elbow

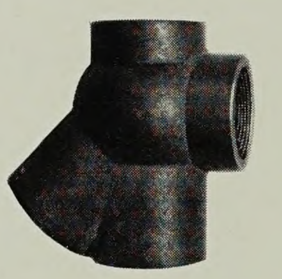

Back Outlet
Upper Elbow


Angle Tee

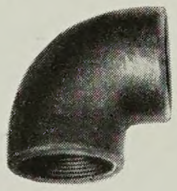

Side Outlet
Angle Tee
Right Hand

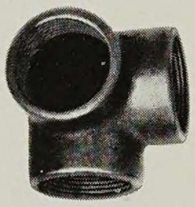

Angle Cross

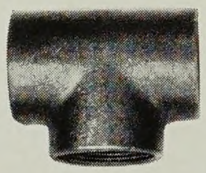

Side Outlet
Angle Tee
Left Hand

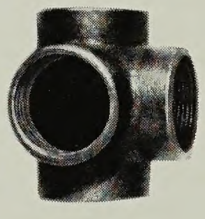

Back Outlet
Angle Tee

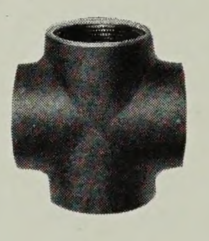
VULCAN STANDARD PLAIN TYPE LEVEL RAILING FITTINGS


Elbow


Side Outlet
Elbow


Tee


Side Outlet
Tee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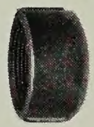

Cap

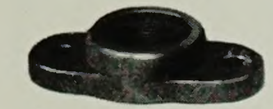
ON THIS and the following page are shown the Standard Vulcan Railing Fittings, Flanges, etc.,which are carried in Stock, enabling us to make prompt deliveries of fabricated Railings.

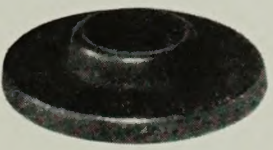
Pages 8 to 17, inclusive, show details of these Fittings and Flanges with the various dimensions indicated.

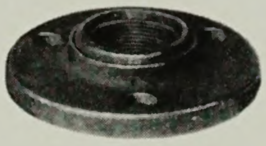
In addition to the Fittings shown we make up special Fittings to meet the requirements of unusual conditions either in Malleable Iron or Cast Iron. However, this necessitates special patterns and the time of delivery is therefore dependent on the time necessary for making the Castings in the Foundry, which, in the case of Malleable Iron, is from four to six weeks.

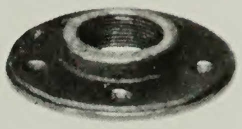
Pages 19 to 27 show standard types of Pipe Railing indicating how the various Vulcan Fittings are used in Pipe Railing design.

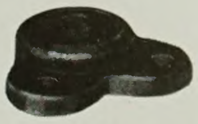
VULCAN STANDARD FLANGES

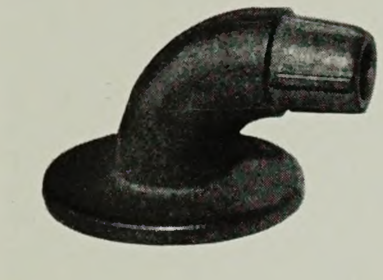

Oval Flange

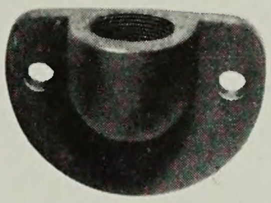

Heavy Flange

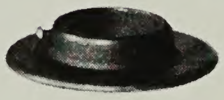

Heavy Rail Flange

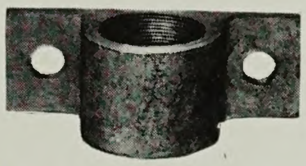

Light Rail Flange

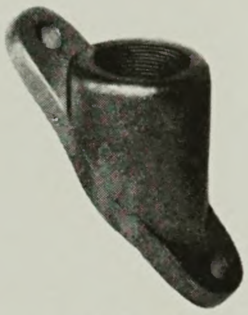

Corner Flange


Flanged Flush Elbow

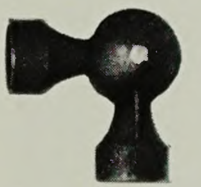

Socket Flange

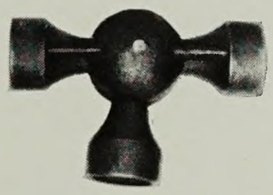

Cover Flange

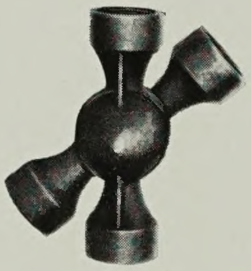

Boardwalk Socket

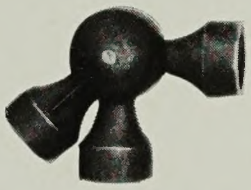

Angle Flange

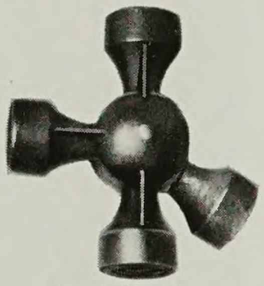
VULCAN ADJUSTABLE RAILING FITTINGS


Elbow A

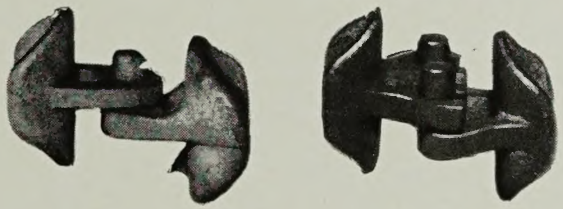

Tee B

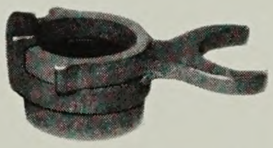

Cross C

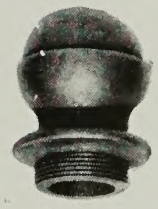

Back Outlet Elbow D

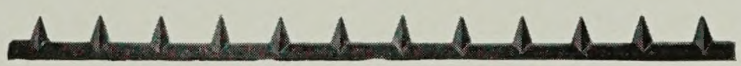

Back Outlet Tee E

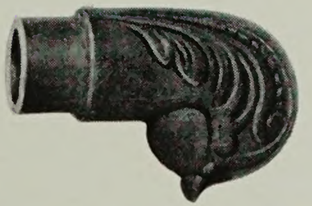
VULCAN MISCELLANEOUS FITTINGS

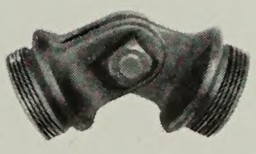

Top
Bottom
Self Closing Hinges

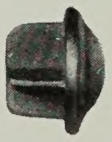

Self Closing Latch

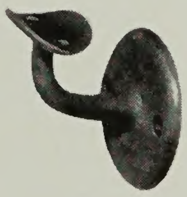

Acorn

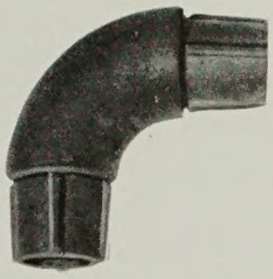

Loafer Cushion


Ornamental Rail End


Plug Hinge

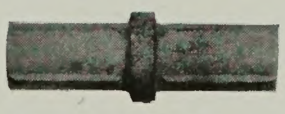

Plain Rail End


Hand Rail Bracket

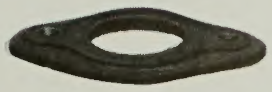

Flush Elbow

Short Nipple

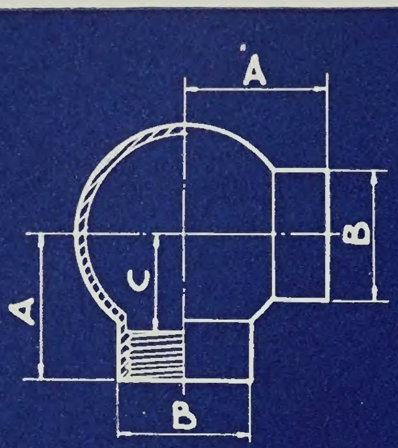
Long Nipple


Flush Inside Dowel

Coupling

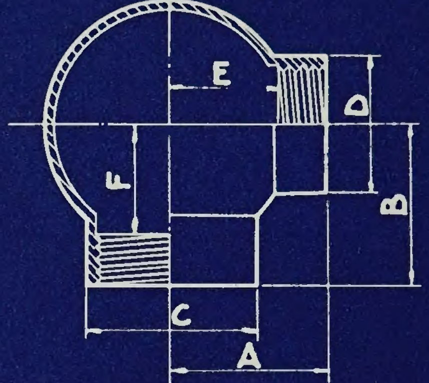

Boardwalk Cover Plate

VULCAN STANDARD DETAILS



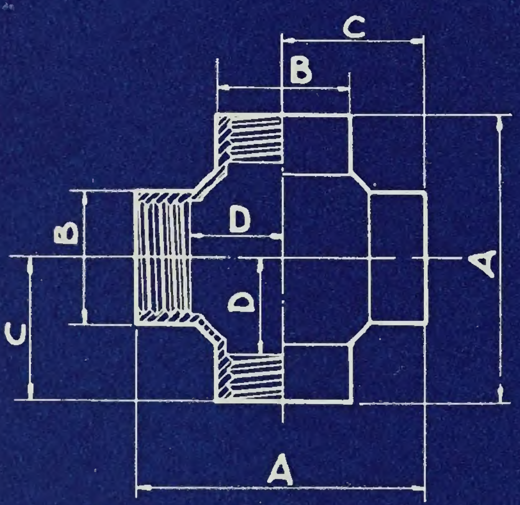
VULCAN RAIL ELL
MALLEABLE IRON

SIZE	A	B	C
3/4"	1 5/16"	1 3/8"	13/16"
1"	1 13/32"	1 5/8"	7/8"
1 1/4"	1 11/16"	2"	1 1/16"
1 1/2"	1 7/8"	2 3/16"	1 1/4"
2"	2 3/16"	2 3/4"	1 7/16"
2 1/2"	2 21/32"	3 3/8"	2"
3"	3 1/2"	3 7/8"	2 1/2"



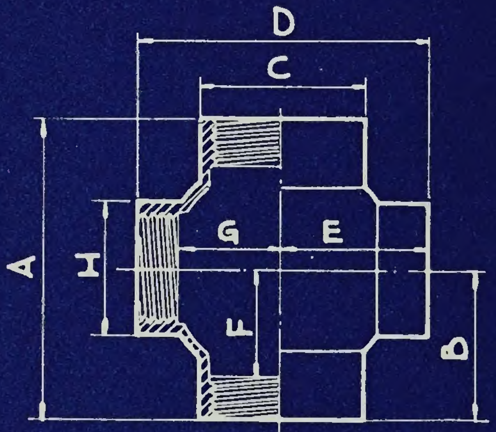
VULCAN REDUCING RAIL ELL
MALLEABLE IRON

SIZE	A	B	C	D	E	F
1 1/4"×1"	1 11/16"	1 11/16"	2"	1 5/8"	1 3/16"	1 1/16"
1 1/2"×1"	1 29/32"	1 7/8"	2 3/16"	1 5/8"	1 7/16"	1 1/4"
1 1/2"×1 1/4"	1 29/32"	1 7/8"	2 3/16"	2"	1 1/4"	1 1/4"
2"×1 1/4"	2 13/32"	2 3/16"	2 3/4"	2"	1 3/4"	1 7/16"
2"×1 1/2"	2 13/32"	2 3/16"	2 3/4"	2 3/16"	1 3/4"	1 7/16"
2 1/2"×1 1/2"	3 1/16"	2 31/32"	3 3/8"	2 3/16"	2 7/16"	2"
2 1/2"×2"	3"	2 31/32"	3 3/8"	2 3/4"	2 1/4"	2"
3"×2"	3 9/16"	3 1/2"	3 7/8"	2 3/4"	2 7/8"	2 1/2"
3"×2 1/2"	3 1/2"	3 1/2"	3 7/8"	3 3/8"	2 1/2"	2 1/2"



VULCAN RAIL CROSS
MALLEABLE IRON

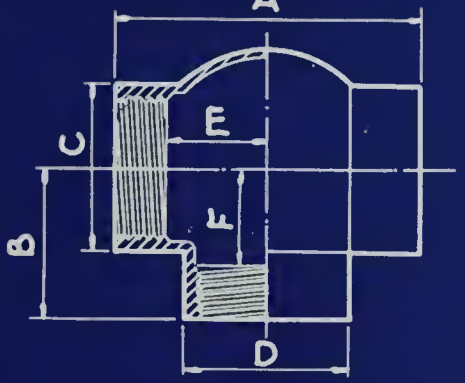
SIZE	A	B	C	D
3/4"	2 5/8"	1 3/8"	1 5/16"	13/16"
1"	2 13/16"	1 5/8"	1 13/32"	7/8"
1 1/4"	3 3/8"	2"	1 11/16"	1 1/16"
1 1/2"	3 3/4"	2 3/16"	1 7/8"	1 1/4"
2"	4 3/8"	2 3/4"	2 3/16"	1 7/16"
2 1/2"	"5 15/16"	3 3/8"	2 21/32"	2"
3"	7"	3 7/8"	3 1/2"	2 1/2"



VULCAN REDUCING RAIL CROSS
MALLEABLE IRON

SIZE	A	B	C	D	E	F	G	H
1 1/4"×1"	3 3/8"	1 11/16"	2"	3 3/8"	1 11/16"	1 1/16"	1 3/16"	1 5/8"
1 1/2"×1"	3 3/4"	1 7/8"	2 3/16"	3 13/16"	1 29/32"	1 1/4"	1 7/16"	1 5/8"
1 1/2"×1 1/4"	3 3/4"	1 7/8"	2 3/16"	3 3/4"	1 29/32"	1 1/4"	1 1/4"	2"
2"×1 1/4"	4 3/8"	2 3/16"	2 3/4"	4 13/16"	2 13/32"	1 7/16"	1 13/16"	2"
2"×1 1/2"	4 3/8"	2 3/16"	2 3/4"	4 13/16"	2 13/32"	1 7/16"	1 13/16"	2 3/16"
2 1/2"×1 1/2"	5 15/16"	2 31/32"	3 3/8"	6 1/8"	3 1/16"	2"	2 7/16"	2 3/16"
2 1/2"×2"	5 15/16"	2 31/32"	3 3/8"	6"	3"	2"	2 1/4"	2 3/4"
3"×2"	7"	3 1/2"	3 7/8"	7 1/8"	3 9/16"	2 1/2"	2 7/8"	2 3/4"
3"×2 1/2"	7"	3 1/2"	3 7/8"	7"	3 1/2"	2 1/2"	2 1/2"	3 3/8"

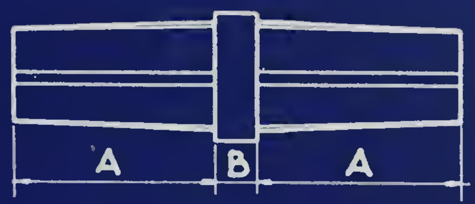
VULCAN STANDARD DETAILS



VULCAN RAIL TEE

MALLEABLE IRON

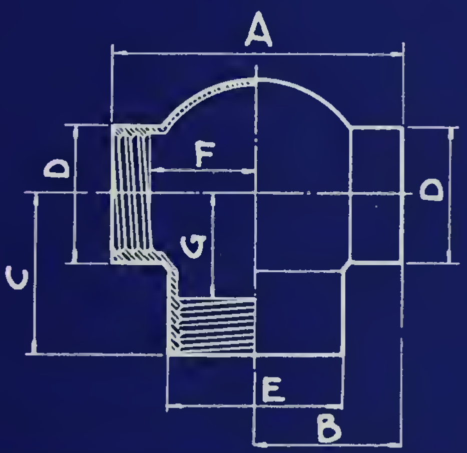
SIZE	A	B	C	D	E	F
3/4"	2 5/8"	1 5/16"	1 3/8"	1 3/8"	13/16"	13/16"
1"	2 13/16"	1 13/32"	1 5/8"	1 5/8"	7/8"	7/8"
1 1/4"	3 3/8"	1 11/16"	2"	2"	1 1/16"	1 1/16"
1 1/2"	3 3/4"	1 7/8"	2 3/16"	2 3/16"	1 1/4"	1 1/4"
2"	4 3/8"	2 3/16"	2 3/4"	2 3/4"	1 7/16"	1 7/16"
2 1/2"	5 15/16"	2 31/32"	3 3/8"	3 3/8"	2"	2"
3"	7"	3 1/2"	3 7/8"	3 7/8"	2 1/2"	2 1/2"



VULCAN FLUSH INSIDE DOWEL

CAST IRON

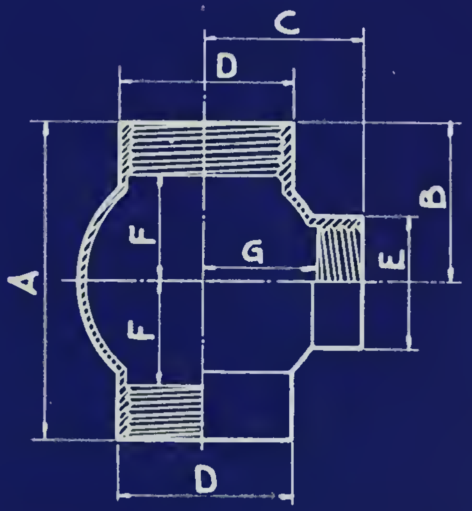
SIZE	A	B
1 1/4"	2 1/2"	1/2"
1 1/2"	2 1/2"	1/2"



VULCAN REDUCING RAIL TEE

MALLEABLE IRON

SIZE	A	B	C	D	E	F	G
1"×1 1/4"	3 3/8"	1 11/16"	1 11/16"	1 5/8"	2"	1 3/16"	1 1/16"
1"×1 1/2"	3 13/16"	1 29/32"	1 7/8"	1 5/8"	2 3/16"	1 7/16"	1 1/4"
1 1/4"×1 1/2"	3 3/4"	1 29/32"	1 7/8"	2"	2 3/16"	1 1/4"	1 1/4"
1 1/4"×2"	4 13/16"	2 13/32"	2 3/16"	2"	2 3/4"	1 3/4"	1 7/16"
1 1/2"×2"	4 13/16"	2 13/32"	2 3/16"	2 3/16"	2 3/4"	1 3/4"	1 7/16"
1 1/2"×2 1/2"	6 1/8"	3 1/16"	2 31/32"	2 3/16"	3 3/8"	2 7/16"	2"
2"×2 1/2"	6"	3"	2 31/32"	2 3/4"	3 3/8"	2 1/4"	2"
2"×3"	7 1/8"	3 9/16"	3 1/2"	2 3/4"	3 7/8"	2 7/8"	2 1/2"
2 1/2"×3"	7"	3 1/2"	3 1/2"	3 3/8"	3 7/8"	2 1/2"	2 1/2"

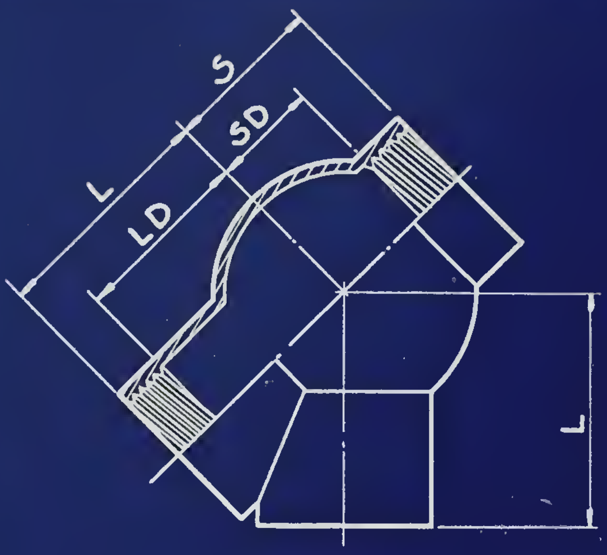


VULCAN REDUCING RAIL TEE

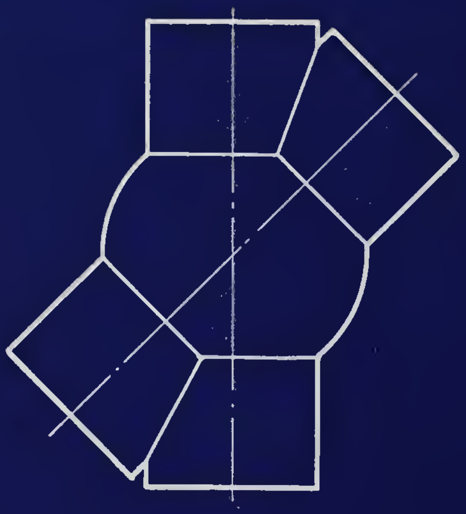
MALLEABLE IRON

SIZE	A	B	C	D	E	F	G
1 1/4"×1"	3 3/8"	1 11/16"	1 11/16"	2"	1 5/8"	1 1/16"	1 3/16"
1 1/2"×1"	3 3/4"	1 7/8"	1 29/32"	2 3/16"	1 5/8"	1 1/4"	1 7/16"
1 1/2"×1 1/4"	3 3/4"	1 7/8"	1 29/32"	2 3/16"	2"	1 1/4"	1 1/4"
2"×1 1/4"	4 3/8"	2 3/16"	2 13/32"	2 3/4"	2"	1 7/16"	1 3/4"
2"×1 1/2"	4 3/8"	2 3/16"	2 13/32"	2 3/4"	2 3/16"	1 7/16"	1 3/4"
2 1/2"×1 1/2"	5 15/16"	2 31/32"	3 1/16"	3 3/8"	2 3/16"	2"	2 7/16"
2 1/2"×2"	5 15/16"	2 31/32"	3"	3 3/8"	2 3/4"	2"	2 1/4"
3"×2"	7"	3 1/2"	3 9/16"	3 7/8"	2 3/4"	2 1/2"	2 7/8"
3"×2 1/2"	7"	3 1/2"	3 1/2"	3 7/8"	3 3/8"	2 1/2"	2 1/2"

VULCAN STANDARD DETAILS



Tee



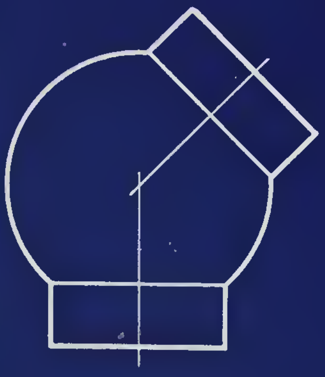
Cross

Vulcan Angle Rail Fittings

Malleable Iron

Angle	Degrees	1¼" Fittings				1½" Fittings				2" Fittings			
		L	S	LD	SD	L	S	LD	SD	L	S	LD	SD
A	45°	2 9/16"	1 11/16"	1 15/16"	1 1/16"	3 1/16"	1 7/8"	2 7/16"	1 1/4"	3 3/4"	2 3/16"	3"	1 7/16"
B	41 3/4°	2 5/8"	1 11/16"	2"	1 1/16"	2 7/8"	1 7/8"	2 1/4"	1 1/4"	3 1/2"	2 3/16"	2 3/4"	1 7/16"
C	38 1/2°	2 1/2"	1 11/16"	1 7/8"	1 1/16"	2 3/4"	1 7/8"	2 1/8"	1 1/4"	3 3/8"	2 3/16"	2 5/8"	1 7/16"
D	35 1/4°	2 3/8"	1 11/16"	1 3/4"	1 1/16"	2 5/8"	1 7/8"	2"	1 1/4"	3 1/4"	2 3/16"	2 1/2"	1 7/16"
E	32°	2 1/4"	1 11/16"	1 5/8"	1 1/16"	2 1/2"	1 7/8"	1 7/8"	1 1/4"	3 1/8"	2 3/16"	2 3/8"	1 7/16"
F	29°	2 3/16"	1 11/16"	1 9/16"	1 1/16"	2 3/8"	1 7/8"	1 3/4"	1 1/4"	2 13/16"	2 3/16"	2 1/16"	1 7/16"

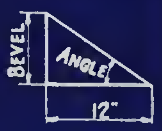
Note - Side Outlet Fittings Stocked in Angles "B" and "E"
Angle "A" Fittings Stocked for 1" Pipe



Lower Ell

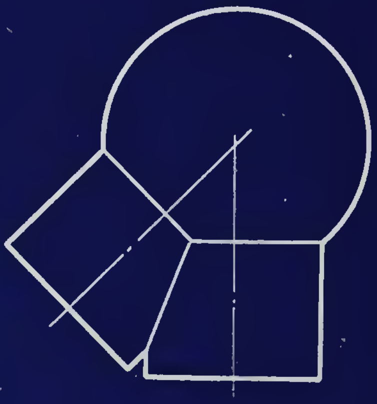
Bevels of Vulcan Angle Fittings

Angle	Degrees	Bevel
A	45°	12"
B	41 3/4°	10 3/4"
C	38 1/2°	9 1/2"
D	35 1/4°	8 1/2"
E	32°	7 1/2"
F	29°	6 1/2"



Bevels are Figured from a Horizontal Line

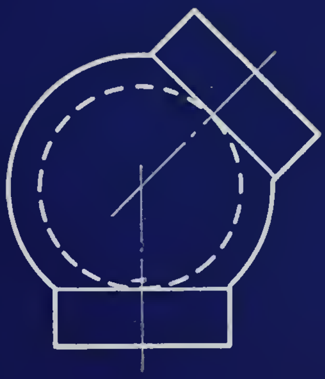
Each of the Above Fittings has a Machining Variation of 1½° Each Way from the Angle Indicated, Which will Permit Their Use for All Angles from 27½° to 46½°.



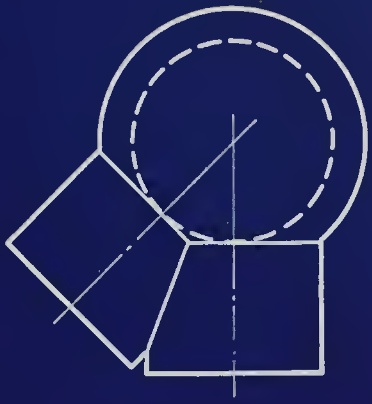
Upper Ell

Note Tabulations and Bevels Shown on This Page Also Apply to Page 11

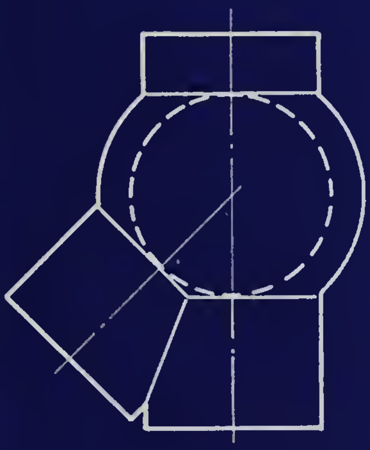
VULCAN STANDARD DETAILS



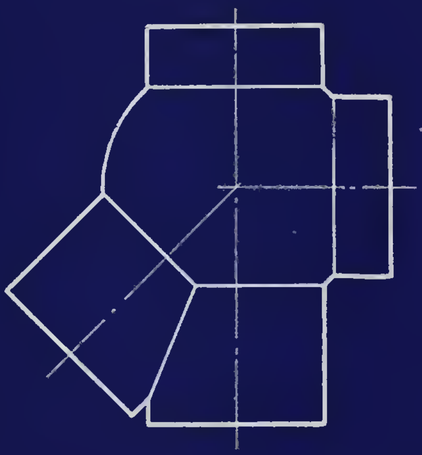
Lower S. O. Ell



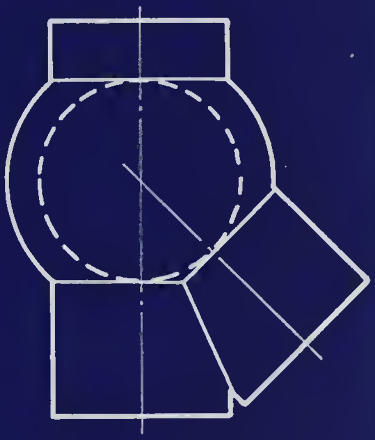
Upper S. O. Ell



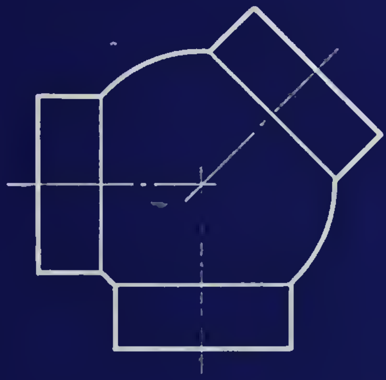
L. H.–S. O. Tee



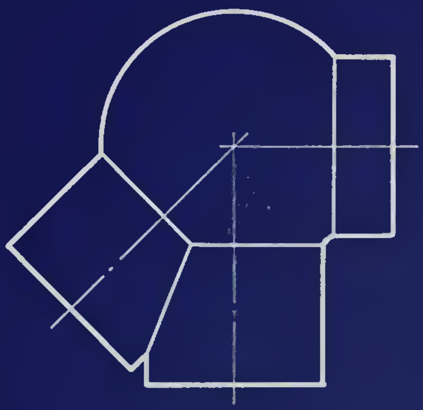
B. O. Tee



R. H.–S. O. Tee

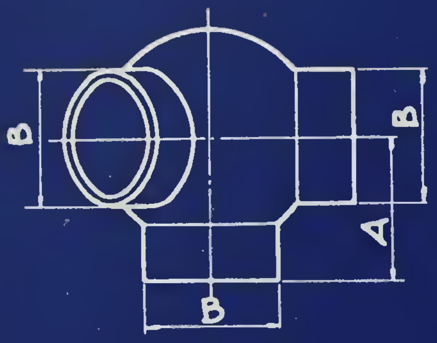


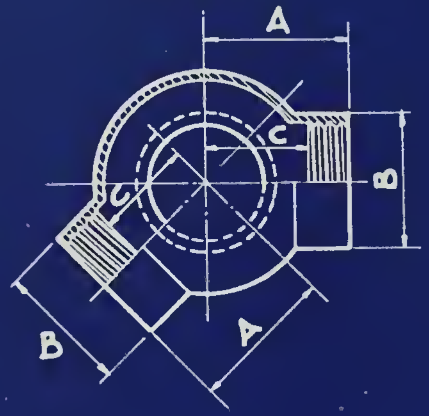
Lower B. O. Ell

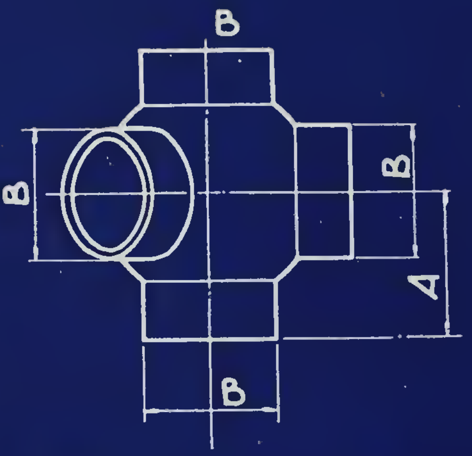


Upper B. O. Ell

VULCAN STANDARD DETAILS

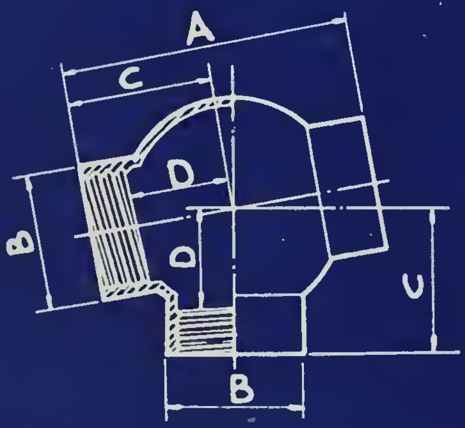


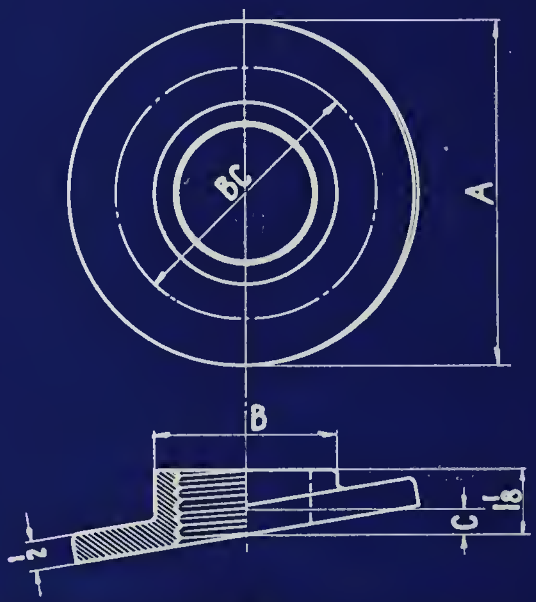




VULCAN 45° RAIL S.O. FITTINGS
MALLEABLE IRON

SIZE	A	B	C
1"	1 13/32"	1 5/8"	7/8"
1¼"	1 11/16"	2"	1 1/16"
1½"	1 7/8"	2 3/16"	1¼"
2"	2 3/16"	2¾"	1 7/16"
2½"	2 31/32"	3 3/8"	2"





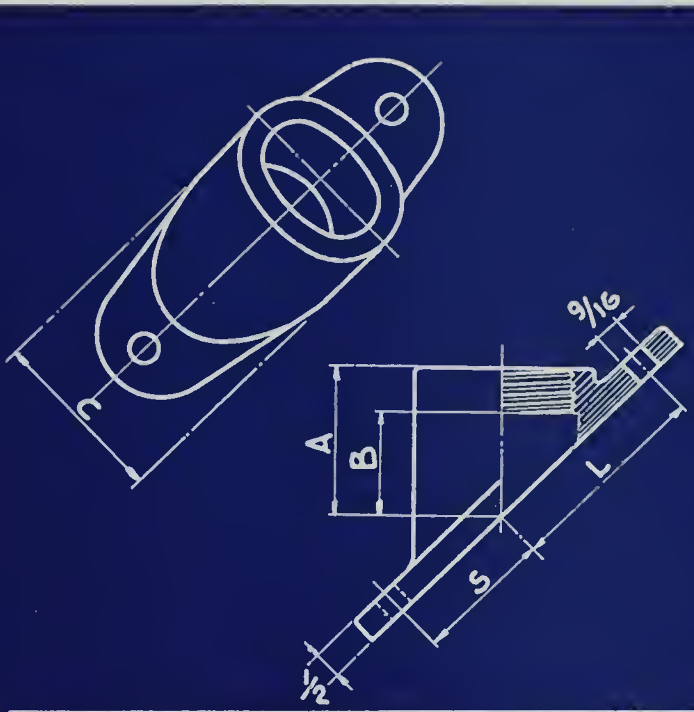
VULCAN RAMP FITTINGS
MALLEABLE IRON

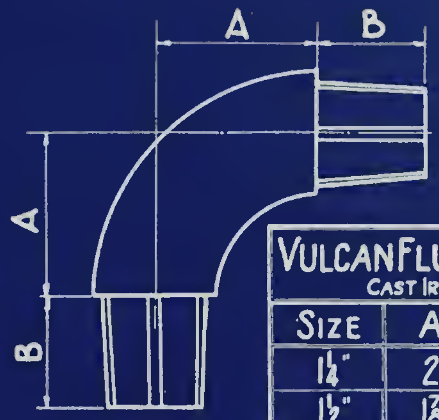
ANGLE "M"	SIZE	A	B	C	D
2" 12"	1¼"	3 3/8"	2"	1 11/16"	1 1/16"
ANGLE "L"	1½"	3¾"	2 3/16"	1 7/8"	1¼"
1" 12"	2"	4 3/8"	2¾"	2 3/16"	1 7/16"

VULCAN RAMP FLANGES
CAST IRON

ANGLE "M"	SIZE	A	B	C	BC
2" 12"	1¼"	5"	2 5/16"	½"	3 7/8"
ANGLE "L"	1½"	5½"	2 5/8"	½"	4¼"
1" 12"	2"	6"	3 1/8"	3/8"	4½"

VULCAN STANDARD DETAILS





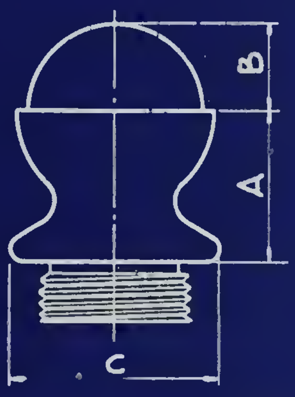
VULCAN FLUSH ELL
CAST IRON

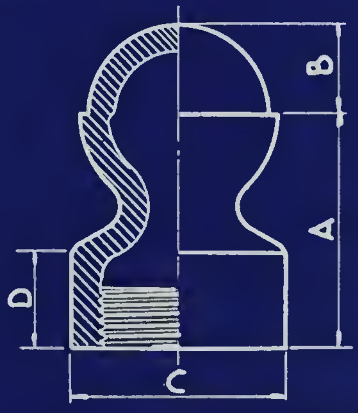
SIZE	A	B
1 1/4"	2"	1 1/2"
1 1/2"	1 7/8"	1 1/2"

VULCAN ANGLE RAIL FLANGES
CAST IRON

ANGLE	DEGREES	1 1/4" FLANGES					1 1/2" FLANGES					2" FLANGES				
		A	B	C	S	L	A	B	C	S	L	A	B	C	S	L
A	45°	2 1/4"	1 5/8"	2 5/16"	1 13/16"	3 1/16"	2 7/16"	1 13/16"	2 5/8"	2"	3 3/8"	2 13/16"	2 1/16"	3 1/8"	2 7/16"	3 3/4"
B	41 3/4°	2 1/8"	1 1/2"	2 5/16"	1 3/4"	2 13/16"	2 5/16"	1 11/16"	2 5/8"	2"	3 1/8"	2 1/2"	1 3/4"	3 1/8"	2 5/16"	3 5/8"
C	38 1/2°	2"	1 3/8"	2 5/16"	1 11/16"	2 3/4"	2 1/8"	1 1/2"	2 5/8"	1 15/16"	3"	2 1/2"	1 3/4"	3 1/8"	2 5/16"	3 7/16"
D	35 1/4°	1 13/16"	1 3/16"	2 5/16"	1 11/16"	2 5/8"	1 15/16"	1 5/16"	2 5/8"	1 15/16"	2 7/8"	2 5/16"	1 9/16"	3 1/8"	2 3/16"	3 5/16"
E	32°	1 13/16"	1 3/16"	2 5/16"	1 5/8"	2 5/8"	1 7/8"	1 1/4"	2 5/8"	1 15/16"	2 13/16"	2 3/16"	1 7/16"	3 1/8"	2 3/16"	3 3/16"
F	29°	1 5/8"	1"	2 5/16"	1 3/4"	2 7/16"	1 3/4"	1 1/8"	2 5/8"	1 15/16"	2 5/8"	2"	1 1/4"	3 1/8"	2 1/8"	3"

NOTE - ANGLE "A" FLANGES STOCKED FOR 1" PIPE.





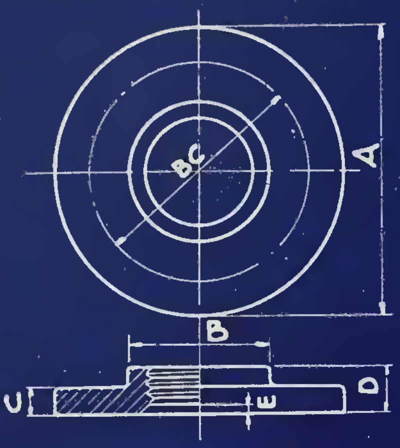
VULCAN MALE ACORN
CAST IRON

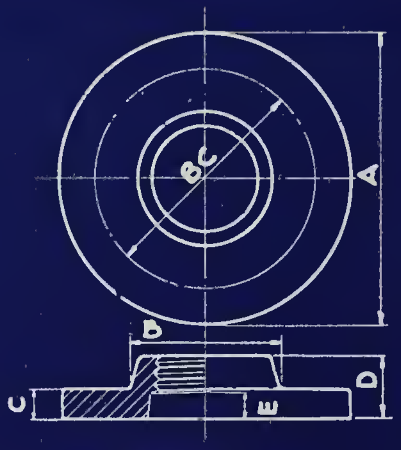
SIZE	A	B	C
3/4"	1 1/8"	3/4"	1 5/8"
1"	1 3/8"	3/4"	1 7/8"
1 1/4"	1 5/8"	1"	2 1/8"
1 1/2"	1 7/8"	1 1/8"	2 1/2"
2"	2 1/4"	1 3/8"	3"
2 1/2"	2 5/8"	1 5/8"	3 7/8"
3"	2 5/8"	2"	4 3/8"

VULCAN FEMALE ACORN
CAST IRON

SIZE	A	B	C	D
3/4"	1 7/8"	7/8"	1 1/2"	1"
1"	2 1/8"	7/8"	1 7/8"	7/8"
1 1/4"	2 3/8"	1"	2 3/8"	7/8"
1 1/2"	2 5/8"	1 1/8"	2 5/8"	1 1/4"
2"	3 1/8"	1 1/2"	3 1/4"	1 5/16"
2 1/2"	3 1/2"	1 3/4"	3 3/4"	1 1/2"

VULCAN STANDARD DETAILS





OLD TYPE

VULCAN HEAVY FLANGE

CAST IRON

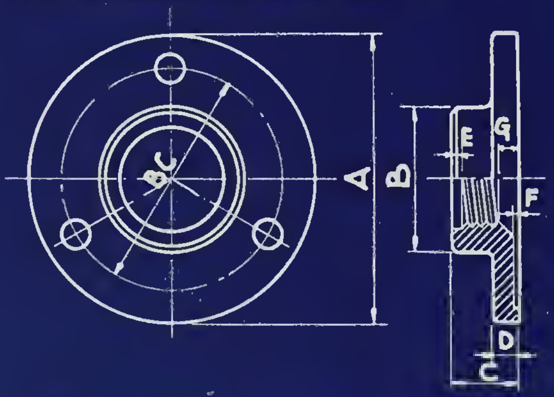
SIZE	A	B	C	D	E	B.C.
1"	4"	1 7/8"	1/2"	3/4"	1/4"	3"
1"	5"	1 7/8"	1/2"	3/4"	1/4"	3 5/8"
1 1/4"	5"	2 5/16"	1/2"	7/8"	1/4"	3 3/4"
1 1/4"	5 1/2"	2 5/16"	1/2"	7/8"	1/4"	4"
1 1/2"	5"	2 5/8"	1/2"	7/8"	1/4"	4"
1 1/2"	5 1/2"	2 5/8"	1/2"	7/8"	1/4"	4 1/8"
1 1/2"	6"	2 5/8"	5/8"	7/8"	1/4"	4 1/2"
2"	5"	3 1/8"	5/8"	7/8"	1/8"	4 1/8"
2"	6"	3 1/8"	5/8"	1"	1/4"	4 1/2"
2"	7"	3 1/8"	5/8"	1"	1/4"	5 1/8"
2 1/2"	6"	3 5/8"	11/16"	1 3/16"	3/16"	4 3/4"
2 1/2"	7"	3 5/8"	3/4"	1 1/8"	1/8"	5 3/8"
3"	7"	4 1/4"	3/4"	1 1/4"	1/4"	5 5/8"
3"	8 1/2"	4 1/4"	7/8"	1 1/4"	1/4"	6 1/2"

NEW TYPE

VULCAN HEAVY FLANGE

CAST IRON

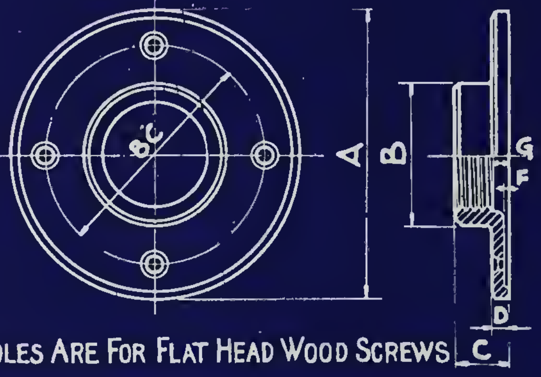
SIZE	A	B	C	D	E	B.C.
1 1/4"	5"	2 5/16"	1/2"	1 1/8"	1/2"	3 3/4"
1 1/4"	5 1/2"	2 5/16"	1/2"	1 1/8"	1/2"	4"
1 1/2"	5"	2 5/8"	1/2"	1 1/8"	1/2"	4"
1 1/2"	5 1/2"	2 5/8"	1/2"	1 1/8"	1/2"	4 1/8"
2"	6"	3 1/4"	9/16"	1 1/4"	1/2"	4 1/2"



VULCAN HEAVY RAIL FLANGE

CAST IRON

SIZE	A	B	C	D	E	F	G	B.C.
1 1/4"	5 1/2"	2 5/16"	1 1/4"	5/8"	1/4"	1/8"	3/8"	4 1/4"
1 1/2"	5 1/2"	2 5/8"	1 1/4"	5/8"	1/4"	1/8"	3/8"	4 1/8"
2"	6"	3 1/8"	1 3/8"	5/8"	1/4"	1/8"	3/8"	4 1/2"
2 1/2"	7"	3 5/8"	1 1/2"	3/4"	1/4"	1/8"	1/4"	5 1/4"
3"	7 1/2"	4 1/4"	1 1/2"	13/16"	1/4"	3/16"	1/4"	6"



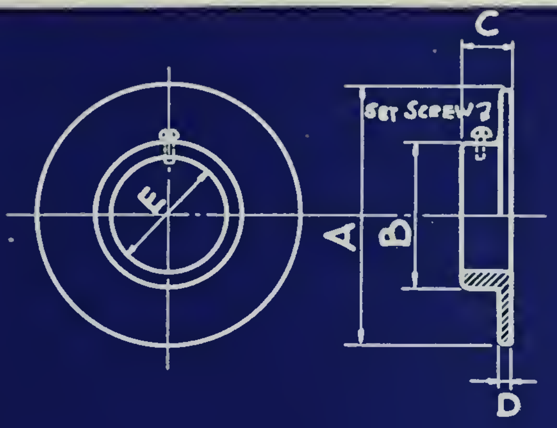
HOLES ARE FOR FLAT HEAD WOOD SCREWS

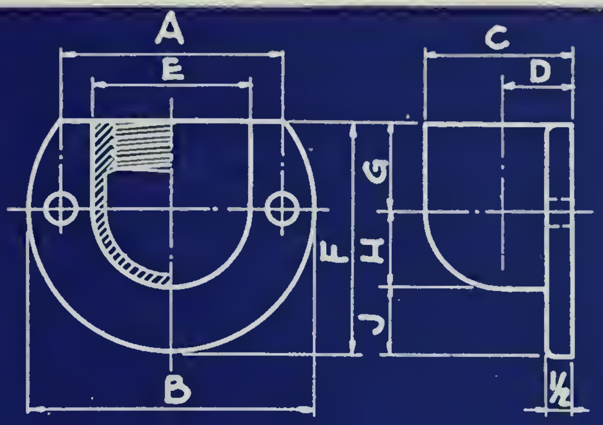
VULCAN LIGHT RAIL FLANGE

CAST IRON

SIZE	A	B	C	D	NO. OF HOLES	F	G	B.C.
3/4"	4"	1 5/8"	3/4"	1/4"	4	0"	1/4"	3"
1"	4"	1 7/8"	7/8"	1/4"	4	0"	1/4"	3"
1 1/4"	4"	2 5/16"	7/8"	1/4"	4	1/16"	1/4"	3"
1 1/4"	5"	2 5/16"	7/8"	5/16"	5	1/16"	1/4"	3 5/8"
1 1/2"	5"	2 5/8"	7/8"	5/16"	5	1/16"	1/4"	3 3/4"
2"	6"	3 1/8"	1 1/8"	3/8"	6	1/16"	1/4"	4 1/2"
2 1/2"	6 1/2"	3 5/8"	1 1/8"	3/8"	6	1/16"	1/4"	5"

VULCAN STANDARD DETAILS



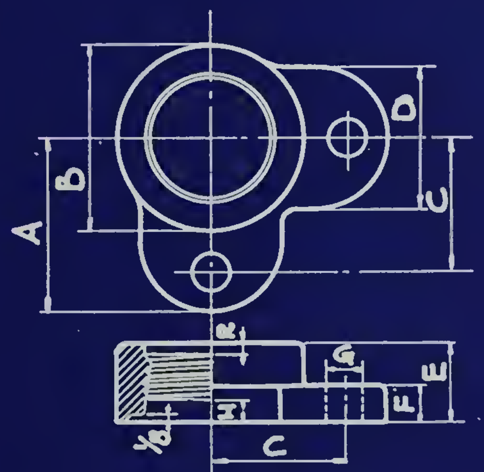


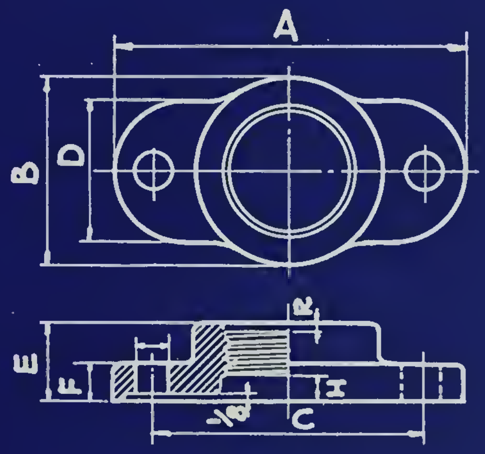
VULCAN COVER FLANGE
CAST IRON

SIZE	A	B	C	D	E
1"	3 11/16"	1 3/4"	3/4"	3/16"	1 3/8"
1 1/4"	3 15/16"	2 1/8"	3/4"	3/16"	1 3/4"
1 1/2"	4 3/8"	2 1/2"	13/16"	3/16"	2"
2"	4 7/8"	2 15/16"	13/16"	3/16"	2 1/2"
2 1/2"	5 1/4"	3 7/16"	7/8"	3/16"	2 15/16"
3"	6 1/16"	4 1/8"	7/8"	1/4"	3 5/8"

VULCAN SOCKET FLANGE
CAST IRON

SIZE	A	B	C	D	E	F	G	H	J
1 1/4"	3 3/4"	5"	2 3/8"	1 1/4"	2 5/16"	4"	1 1/2"	7/8"	1 5/8"
1 1/2"	4 1/8"	5 5/8"	2 5/8"	1 5/16"	2 11/16"	4 1/8"	1 7/16"	1 1/16"	1 5/8"





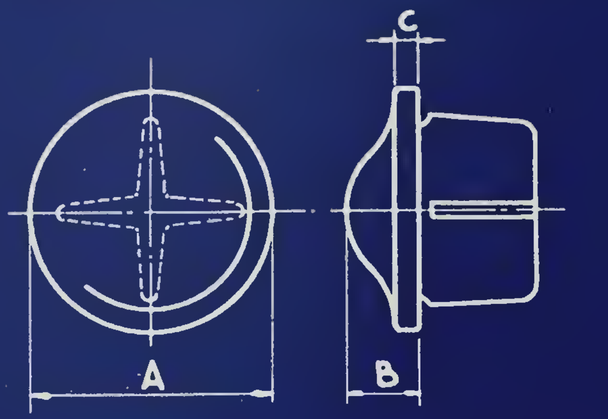
VULCAN CORNER FLANGE
CAST IRON

SIZE	A	B	C	D	E	F	G	H	R
1 1/4"	2 1/2"	2 5/16"	1 7/8"	2"	1"	1/2"	9/16"	1/4"	1/8"
1 1/2"	2 9/16"	2 5/8"	1 7/8"	2"	1"	1/2"	9/16"	1/4"	1/8"
2"	2 15/16"	3 1/8"	2 1/4"	2 3/8"	1 1/8"	1/2"	9/16"	1/4"	1/8"

VULCAN OVAL FLANGE
CAST IRON

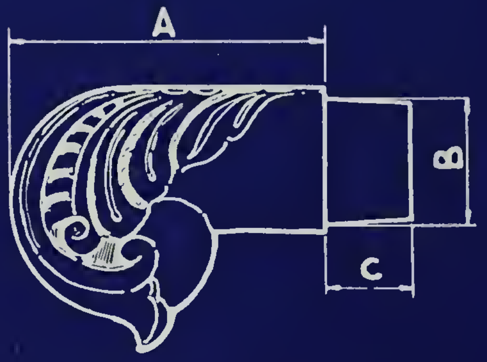
SIZE	A	B	C	D	E	F	G	H	R
1"	4 3/16"	1 15/16"	3"	1 3/8"	15/16"	7/16"	7/16"	1/4"	3/16"
1 1/4"	5"	2 5/16"	3 11/16"	2"	1 1/8"	1/2"	9/16"	1/4"	1/4"
1 1/2"	5 1/8"	2 5/8"	3 3/4"	2"	1 1/8"	1/2"	9/16"	1/4"	1/4"
2"	5 15/16"	3 1/8"	4 1/2"	2 3/8"	1 1/4"	9/16"	9/16"	1/4"	1/4"
2 1/2"	6 7/8"	3 5/8"	5 3/8"	2 3/8"	1 1/2"	5/8"	11/16"	1/4"	1/4"
3"	8"	4 3/8"	6"	2 3/8"	1 1/2"	11/16"	11/16"	1/4"	1/4"

VULCAN STANDARD DETAILS



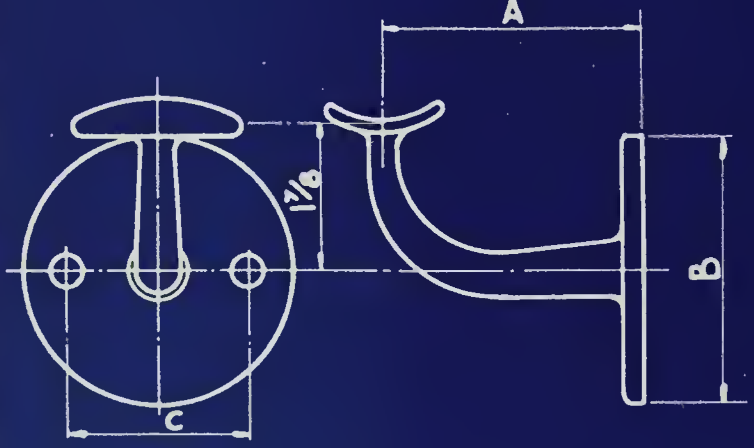
VULCAN PLAIN RAIL END
CAST IRON

SIZE	A	B	C
1"	1 9/16"	1/2"	1/4"
1¼"	1 7/8"	5/8"	1/4"
1½"	2 3/16"	5/8"	5/16"
2"	2 13/16"	7/8"	7/16"



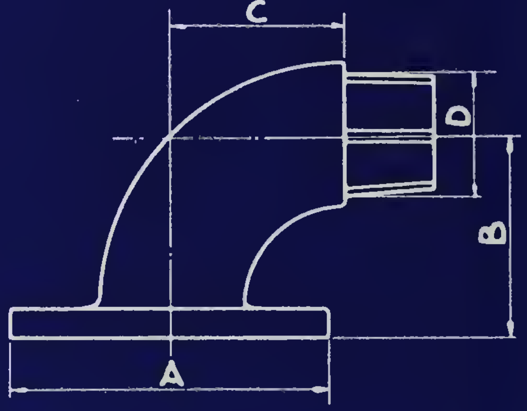
VULCAN ORN. RAIL END
CAST IRON

SIZE	A	B	C
1"	3"	1 1/16"	1"
1¼"	3½"	1 5/16"	1"
1½"	3¾"	1 9/16"	1⅛"
2"	4⅛"	2 1/16"	1¼"



VULCAN HAND RAIL BRACKET
MALLEABLE IRON

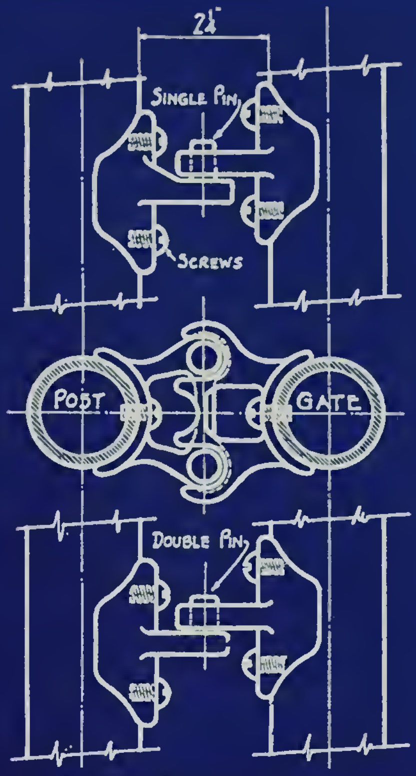
SIZE	A	B	C	HOLES
1¼"	2½"	3¼"	2¼"	7/16
1¼"	3"	3¼"	2¼"	7/16
1½"	2½"	3¼"	2¼"	7/16
1½"	3"	3¼"	2¼"	7/16



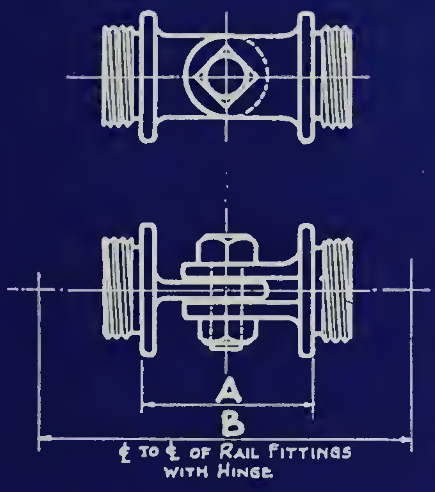
VULCAN FLANGED FLUSH ELL
CAST IRON

SIZE	A	B	C	D
1¼"	4"	2½"	2"	1 5/16"
1½"	4½"	2½"	2"	1 9/16"

VULCAN STANDARD DETAILS

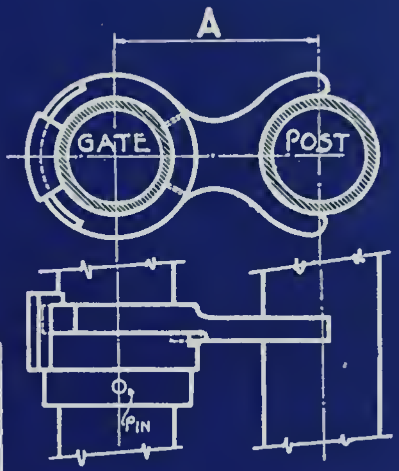


VULCAN SELF CLOSING HINGE
MALLEABLE IRON
FOR 1¼"-1½" & 2" PIPE



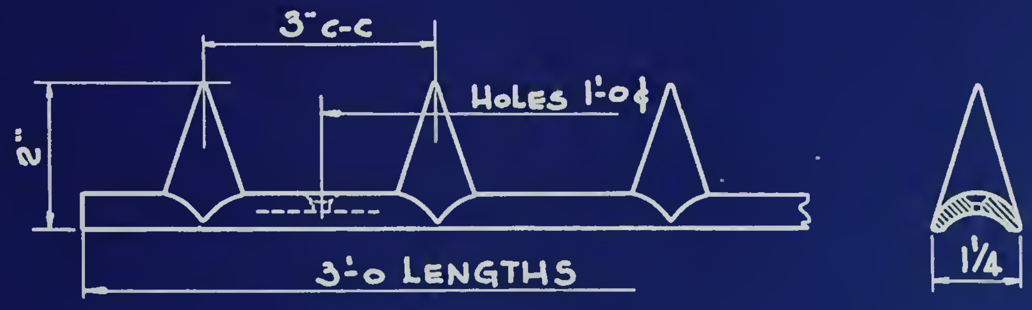
VULCAN PLUG HINGE
MALLEABLE IRON

SIZE	A	B
1"	2½"	5½"
1¼"	3"	6½"
1½"	2⅞"	6¾"
2"	3⅝"	8⅛"



VULCAN GATE LATCH
MALLEABLE IRON

SIZE	A
1¼"	3⅛"
1½"	3½"
2"	4⅝"



VULCAN LOAFER CUSHION
MALLEABLE IRON

STANDARD TYPES OF PIPE RAILINGS

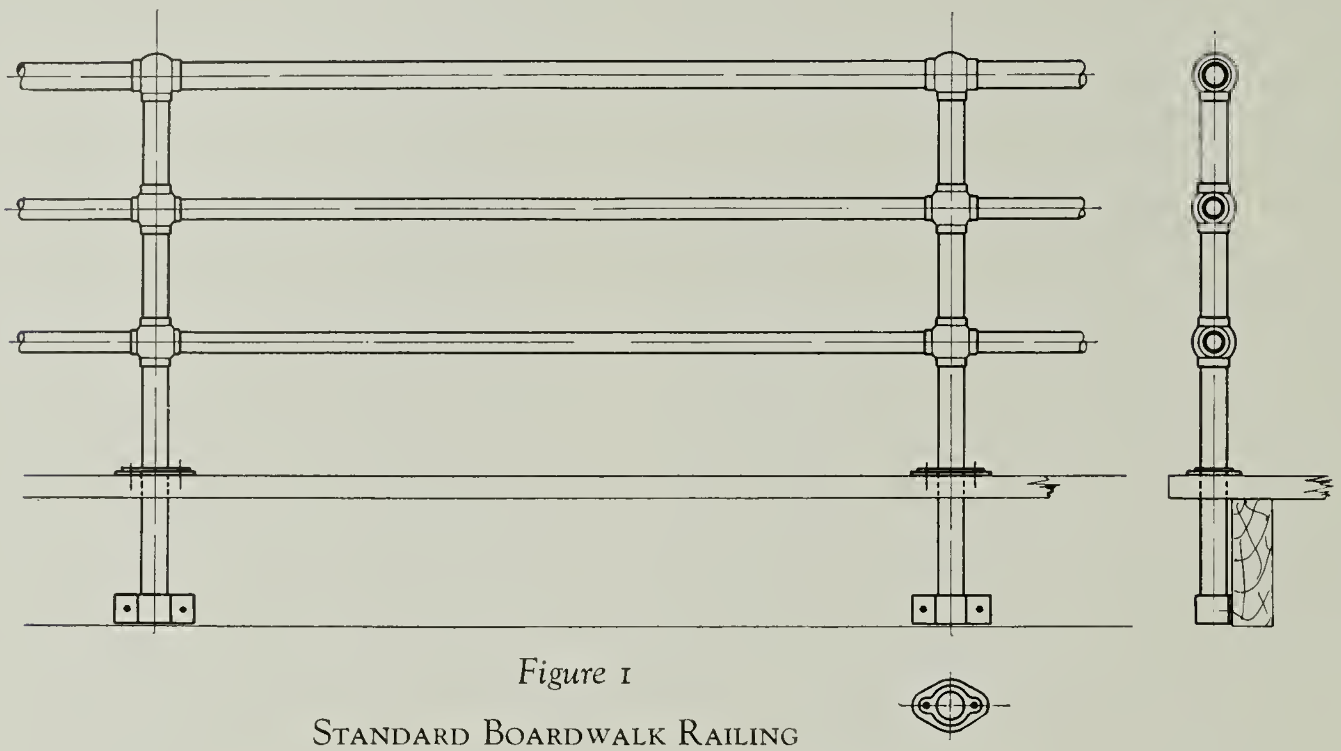


Figure 1

Standard Boardwalk Railing

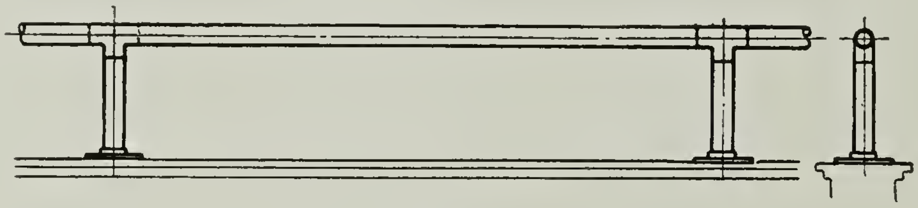
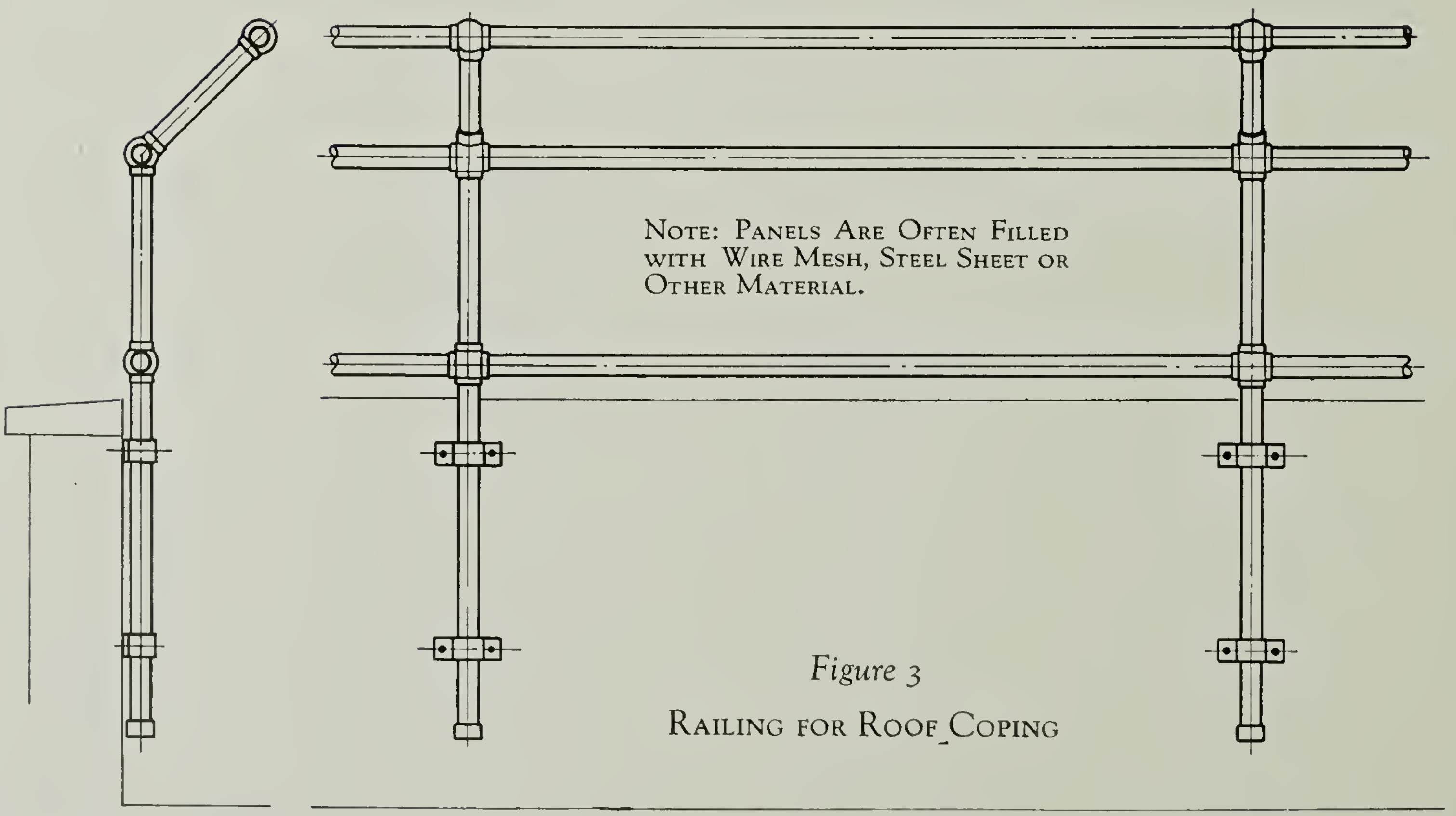


Figure 2

Balcony Rails with Flush Fittings



Note: Panels Are Often Filled with Wire Mesh, Steel Sheet or Other Material.

Figure 3

Railing for Roof Coping

STANDARD TYPES OF PIPE RAILINGS

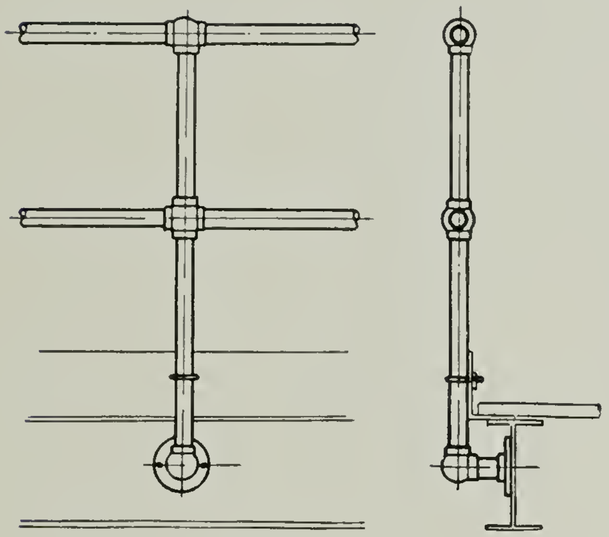


Figure 4
Walkway Railing

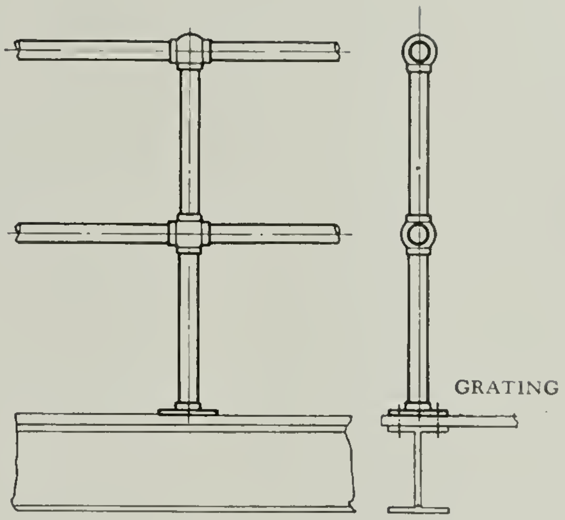


Figure 5
Walkway Railing

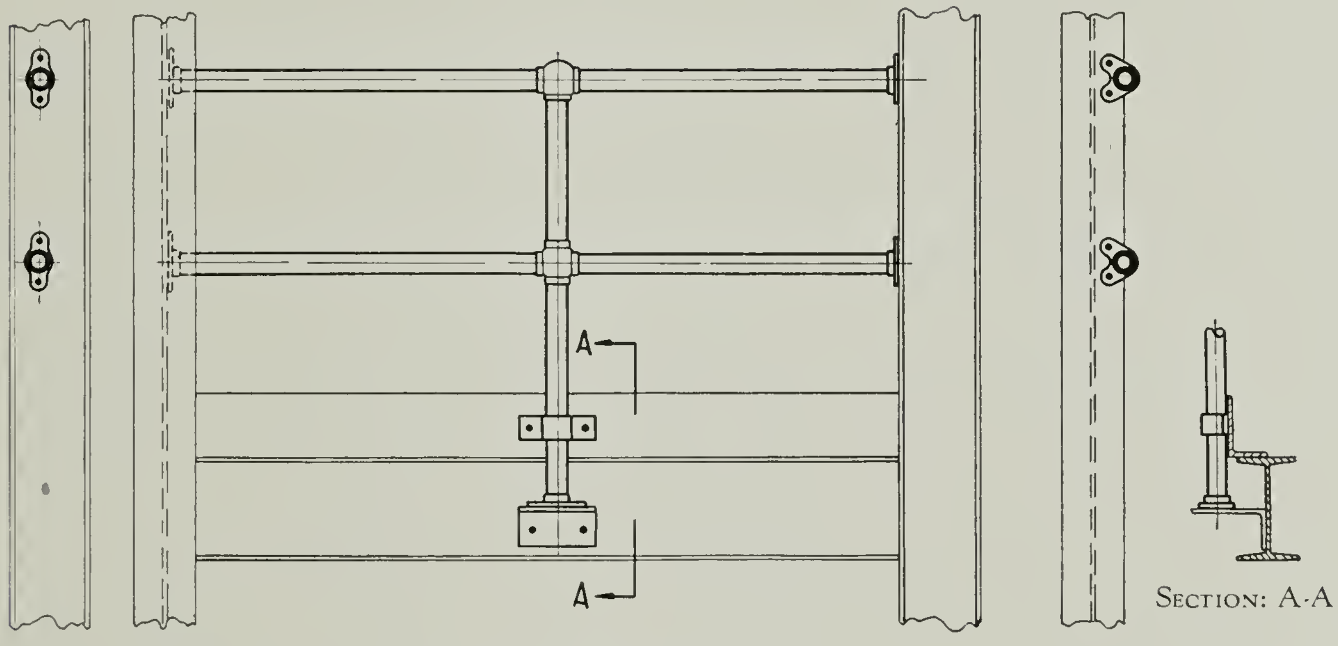


Figure 6
Walkway Railing

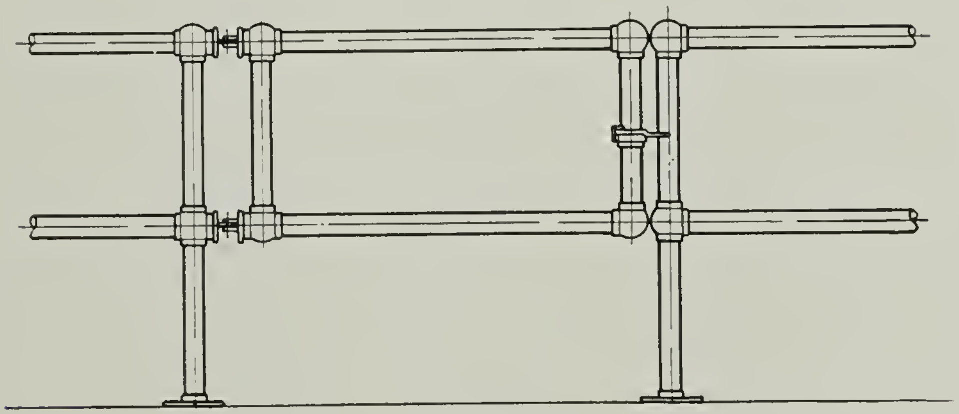


Figure 7
Pipe Railing Gate

STANDARD TYPES OF PIPE RAILINGS

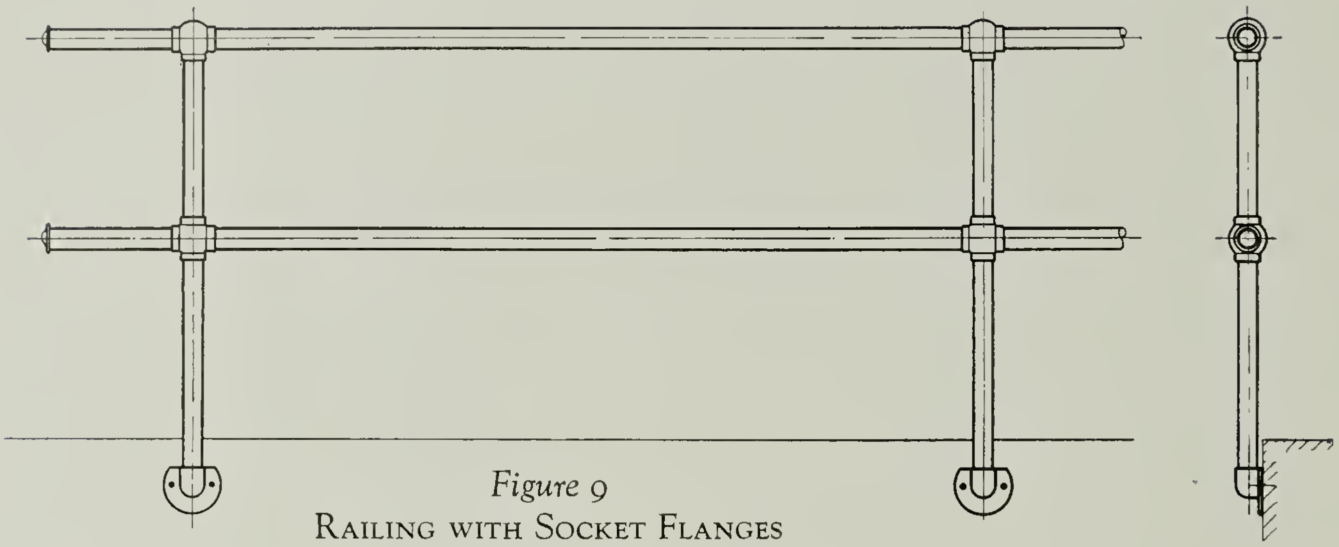


Figure 9
Railing with Socket Flanges

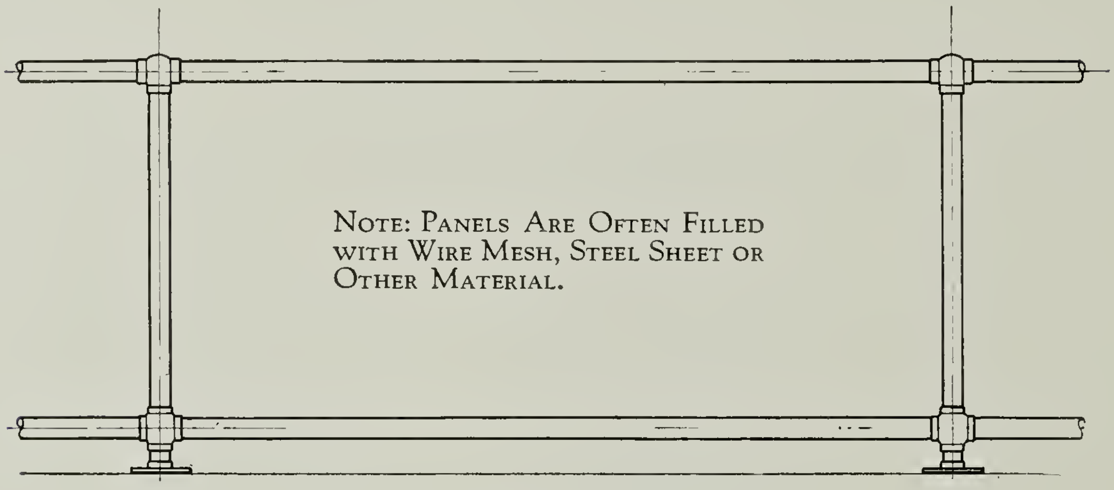

Note: Panels Are Often Filled with Wire Mesh, Steel Sheet or Other Material.

Figure 10
Guard Railing

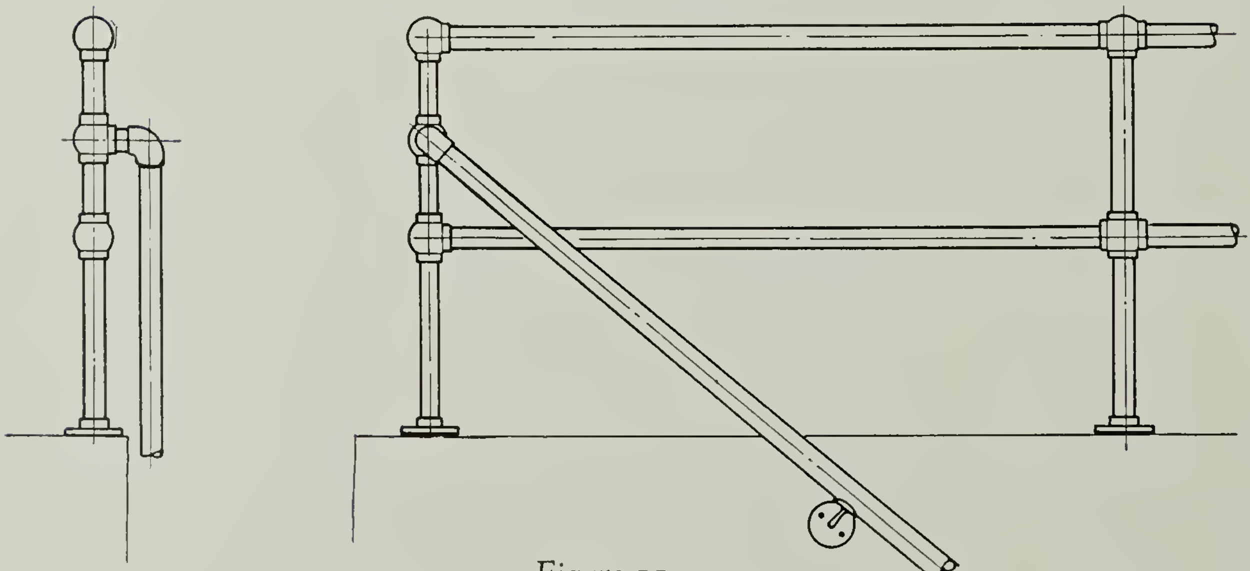


Figure 11
Area Railing with Hand Rail

STANDARD TYPES OF PIPE RAILINGS

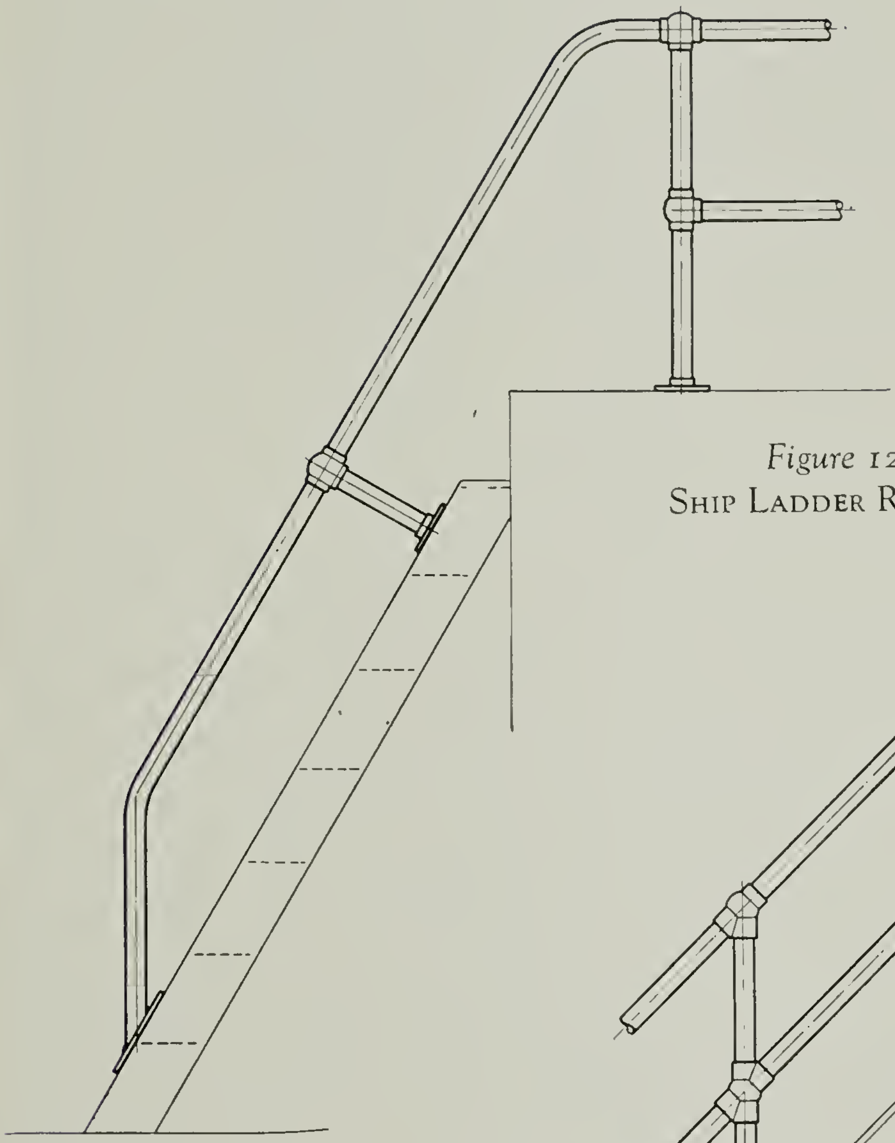


Figure 12
Ship Ladder Railing

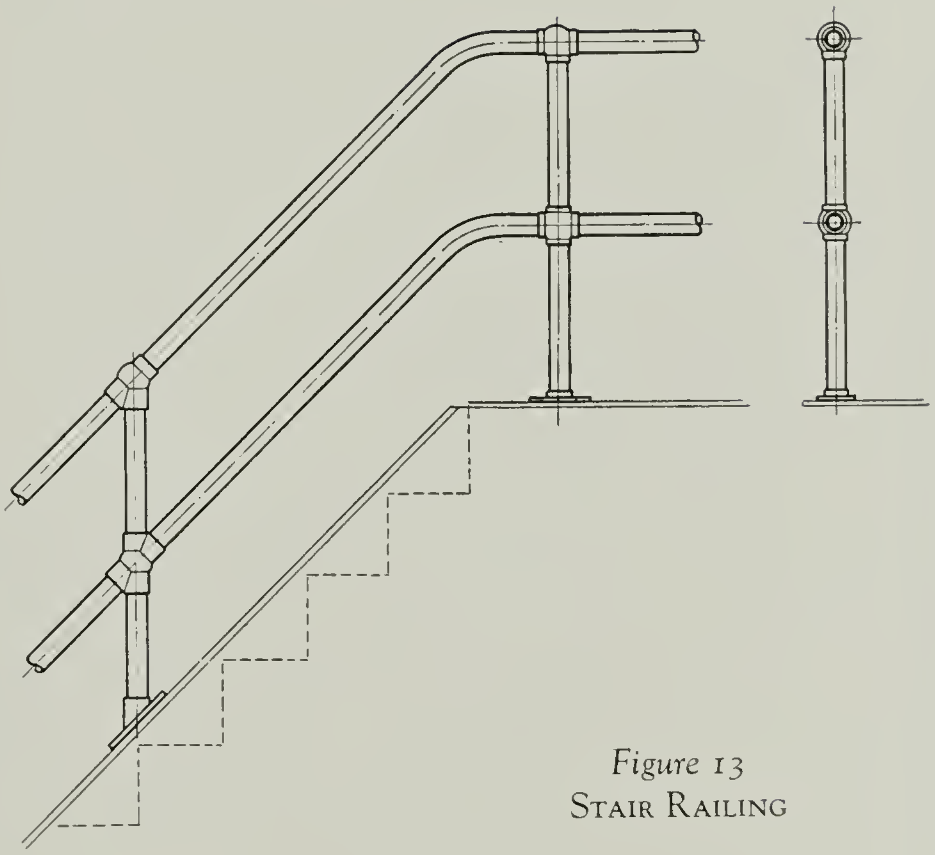


Figure 13
Stair Railing

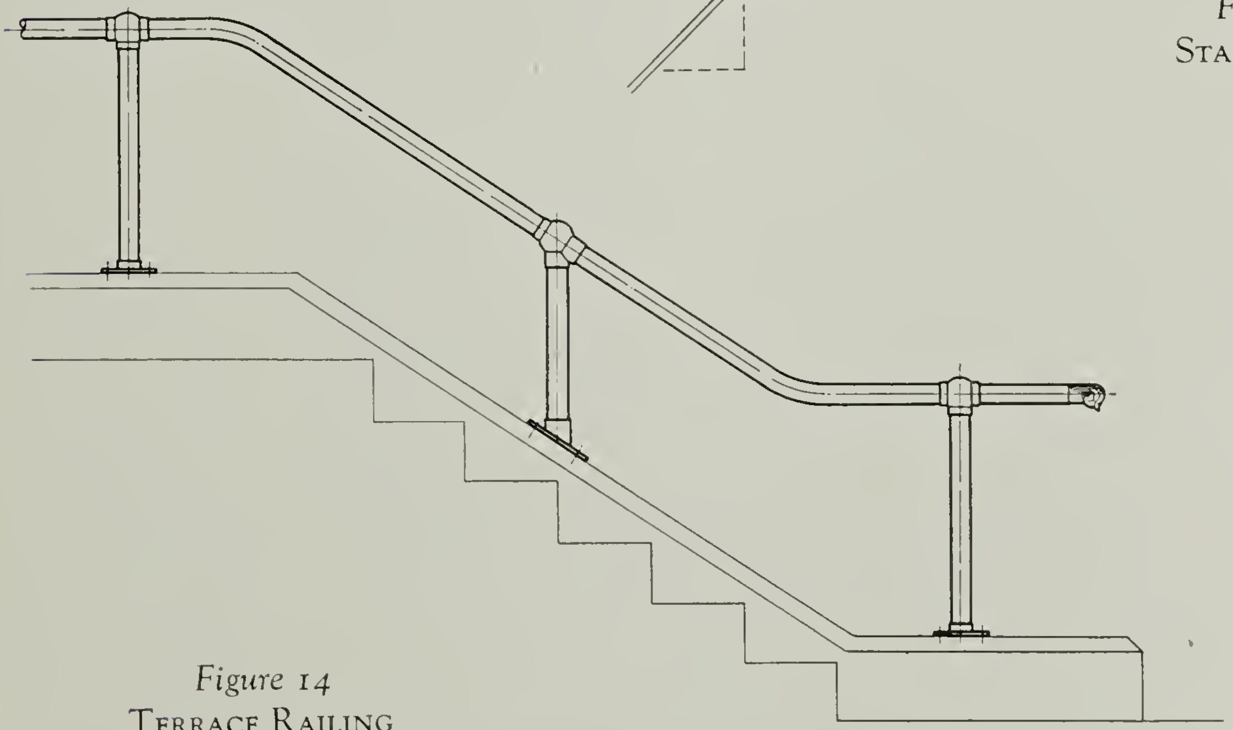


Figure 14
Terrace Railing

STANDARD TYPES OF PIPE RAILINGS

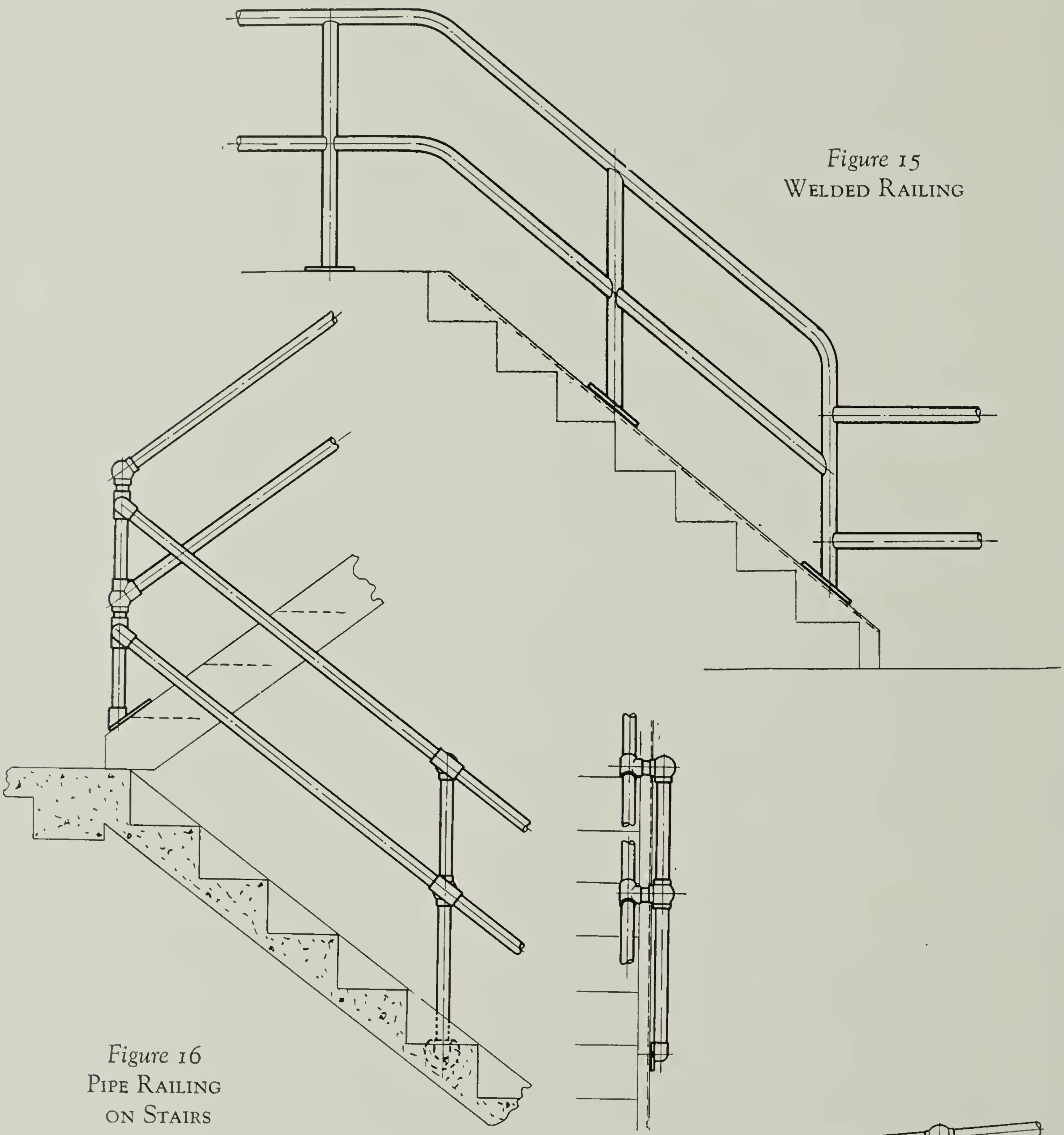


Figure 15
Welded Railing

Figure 16
Pipe Railing
on Stairs

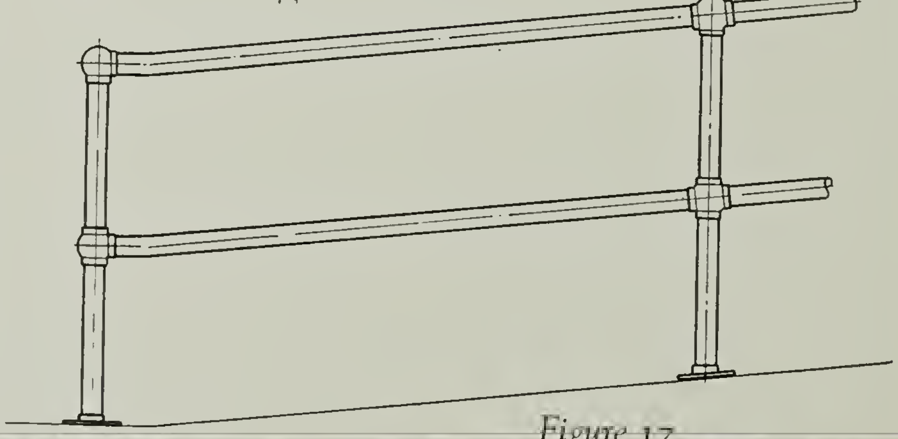


Figure 17
Ramp Railing

STANDARD TYPES OF PIPE RAILINGS

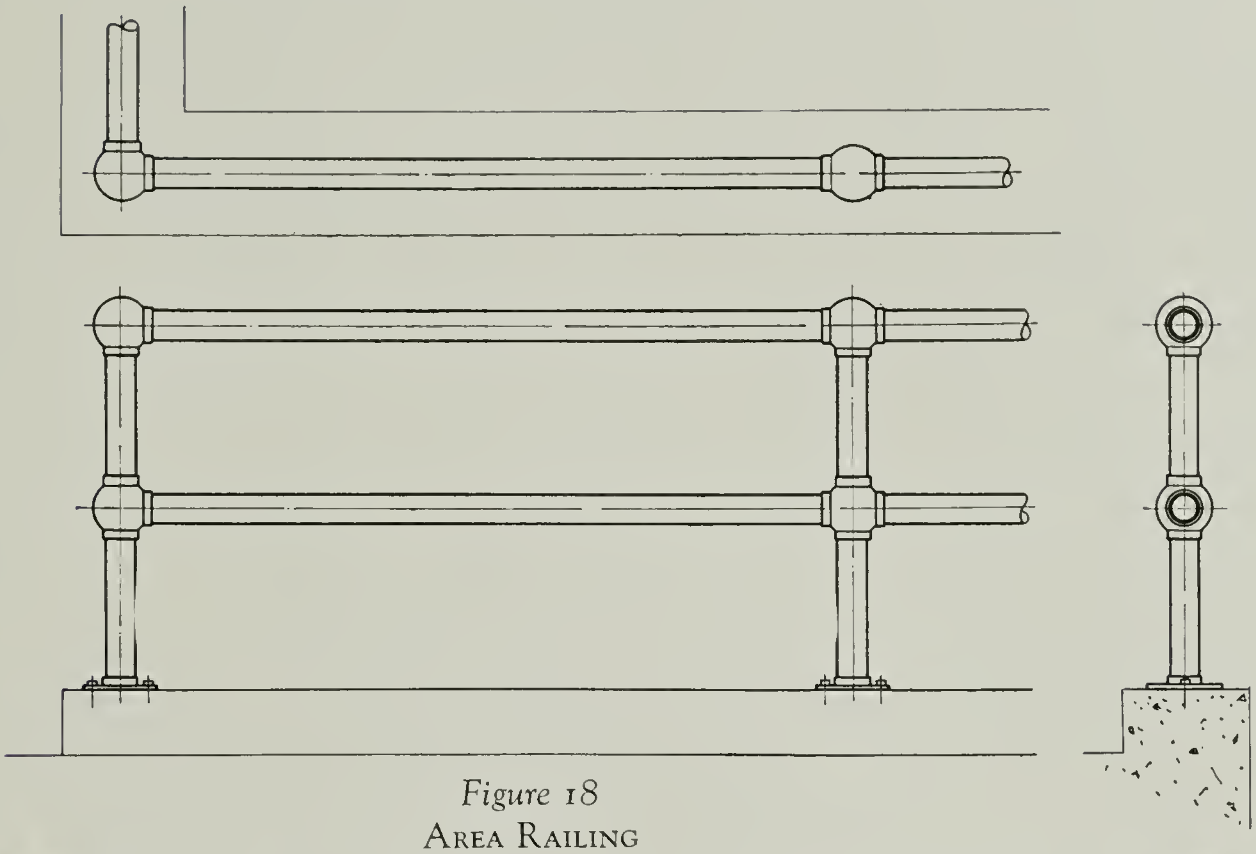
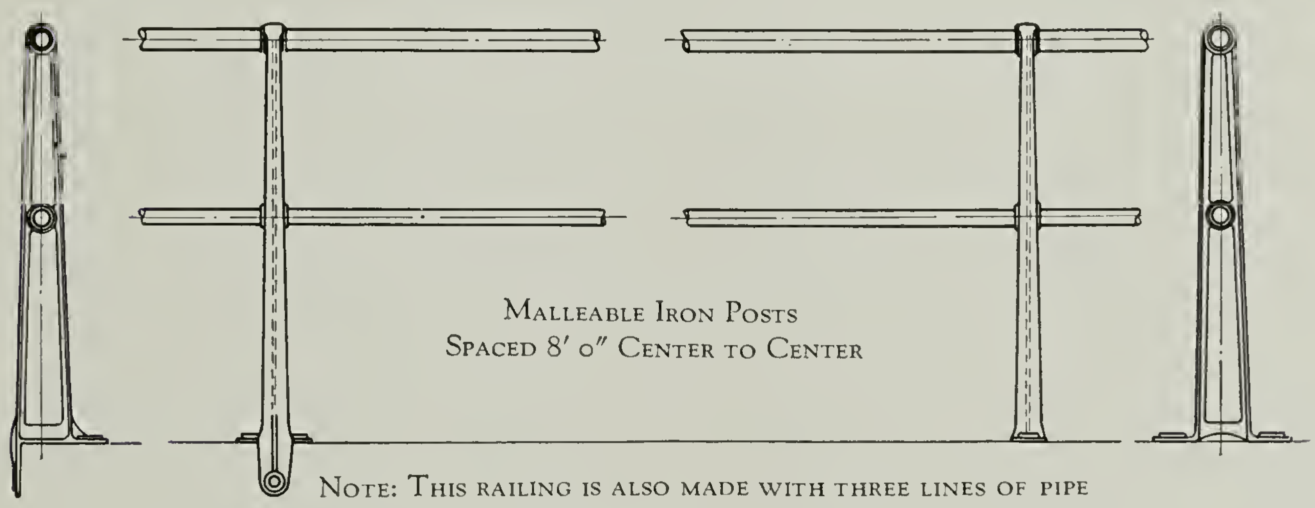


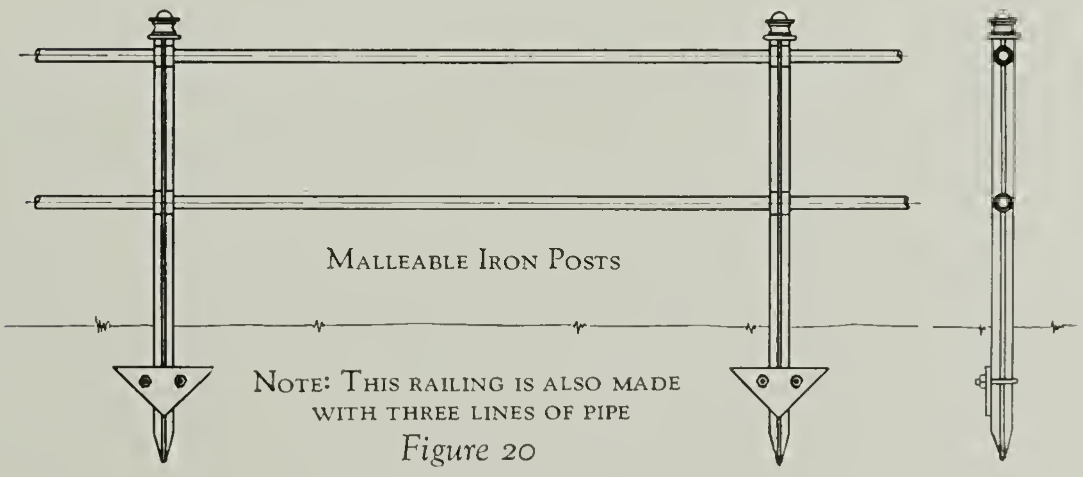
Figure 18
AREA RAILING



MALLEABLE IRON POSTS
SPACED 8′ 0″ CENTER TO CENTER

NOTE: THIS RAILING IS ALSO MADE WITH THREE LINES OF PIPE

Figure 19
RAILROAD RAILING



MALLEABLE IRON POSTS

NOTE: THIS RAILING IS ALSO MADE
WITH THREE LINES OF PIPE

Figure 20
PARK RAILING

STANDARD TYPES OF PIPE RAILINGS

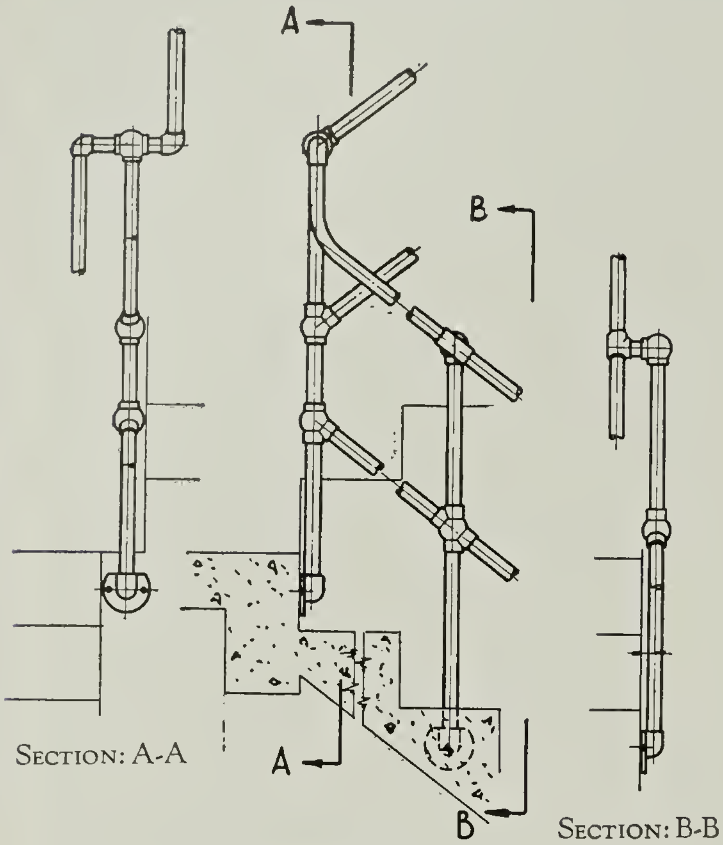


Figure 21
Railing on Concrete Stairs

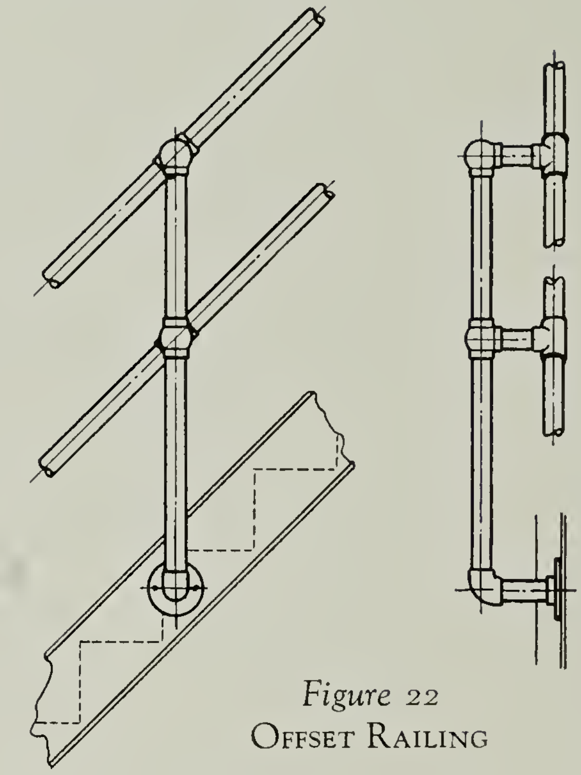


Figure 22
Offset Railing

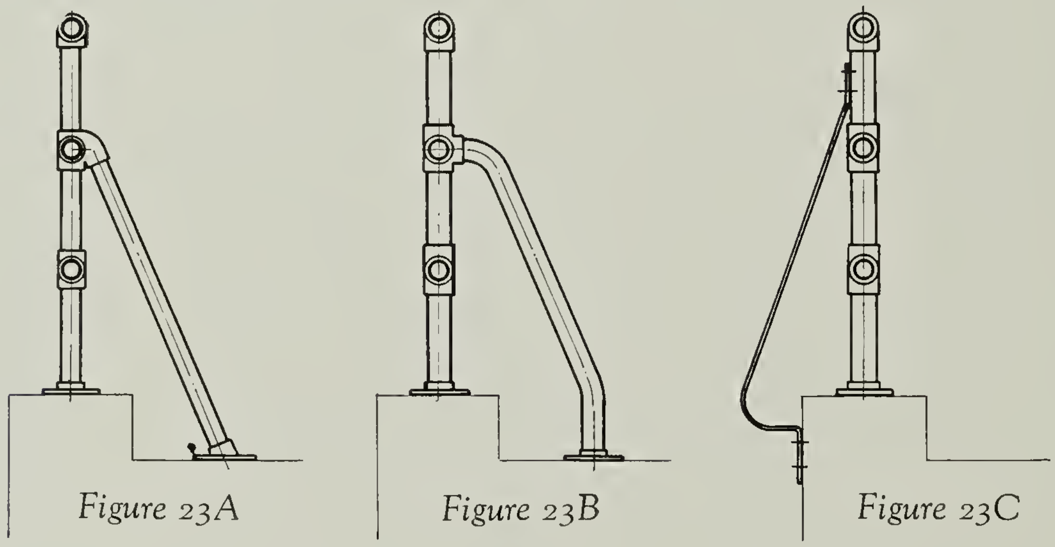


Figure 23A *Figure 23B* *Figure 23C*

Figure 23
Pipe Railing Braces

2 "	Pipe Socket for	1¼Φ	Post
2½"	" " "	1½Φ	"
3 "	" " "	2 Φ	"
3½"	" " "	2½Φ	"
4" "	" " "	3 Φ	"

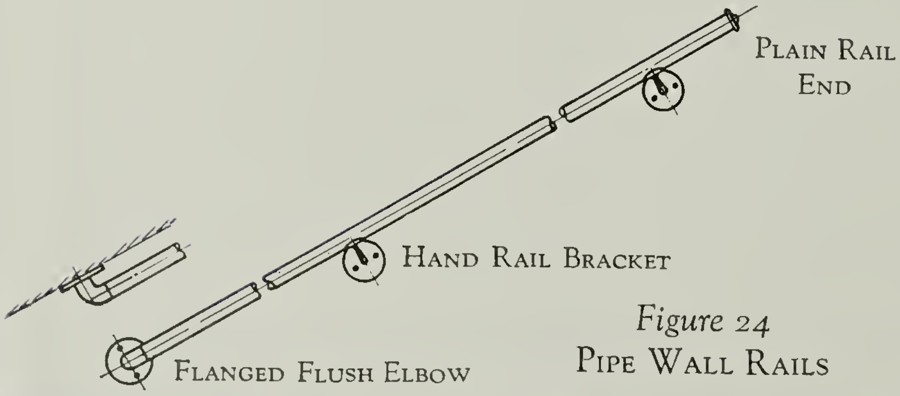
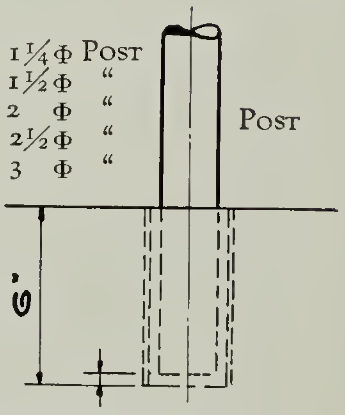


Figure 24
Pipe Wall Rails



Slight Clearance for Levelling Railings

Figure 25
Typical Socket Detail

STANDARD TYPES OF PIPE RAILINGS

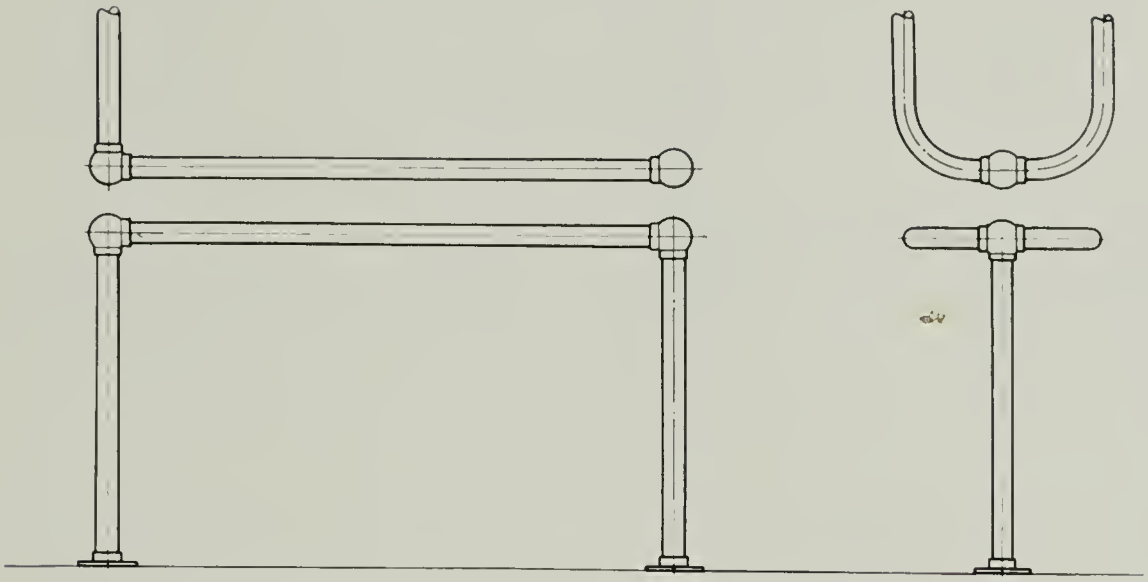


Figure 26A *Figure 26B*

Enclosure Railing

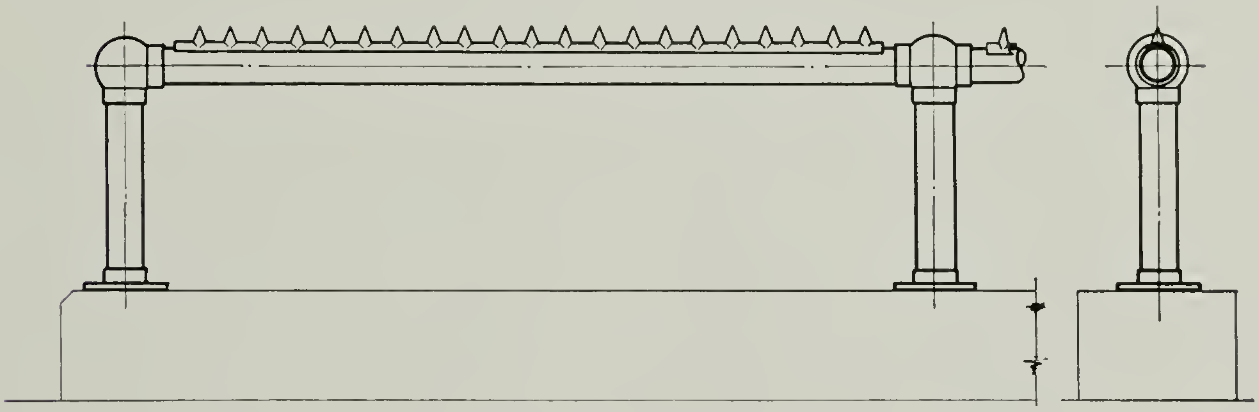


Figure 27

Area Railing with Loafer Cushion

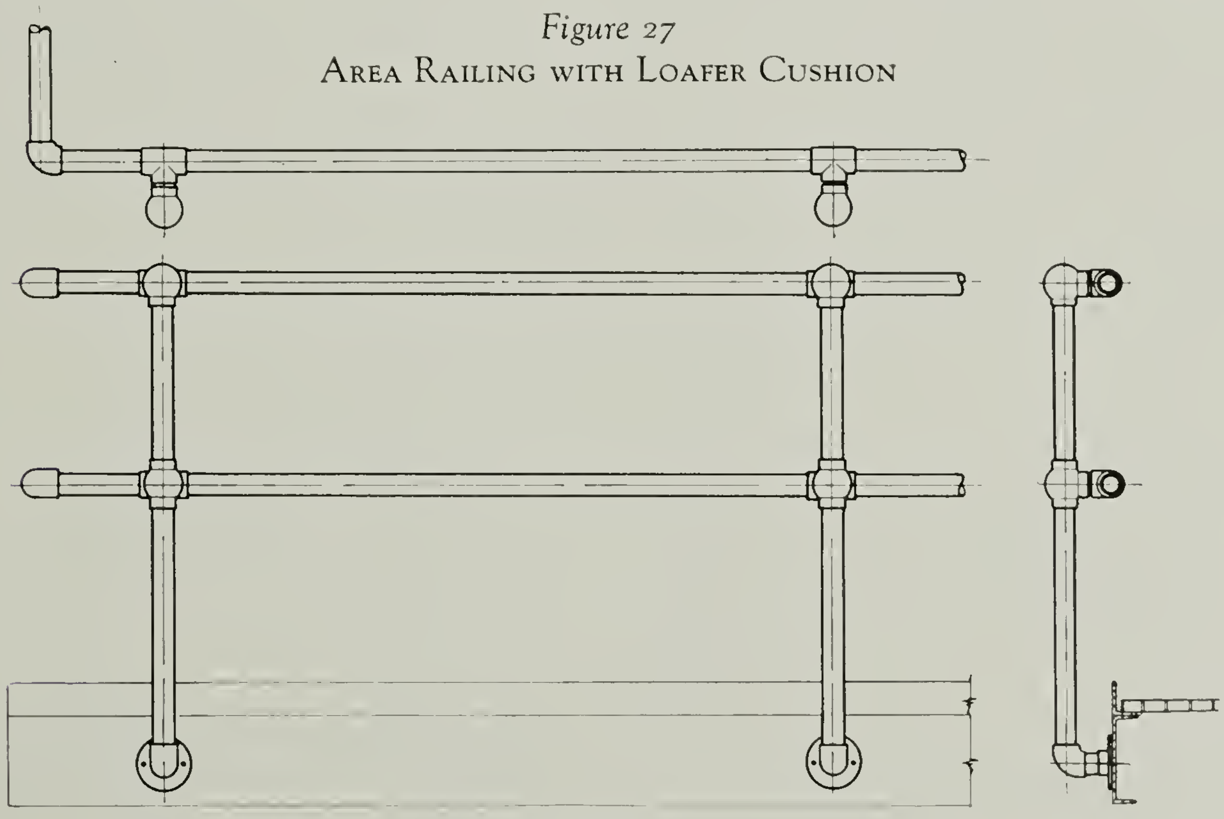


Figure 28

Offset Railing

STANDARD TYPES OF PIPE RAILINGS

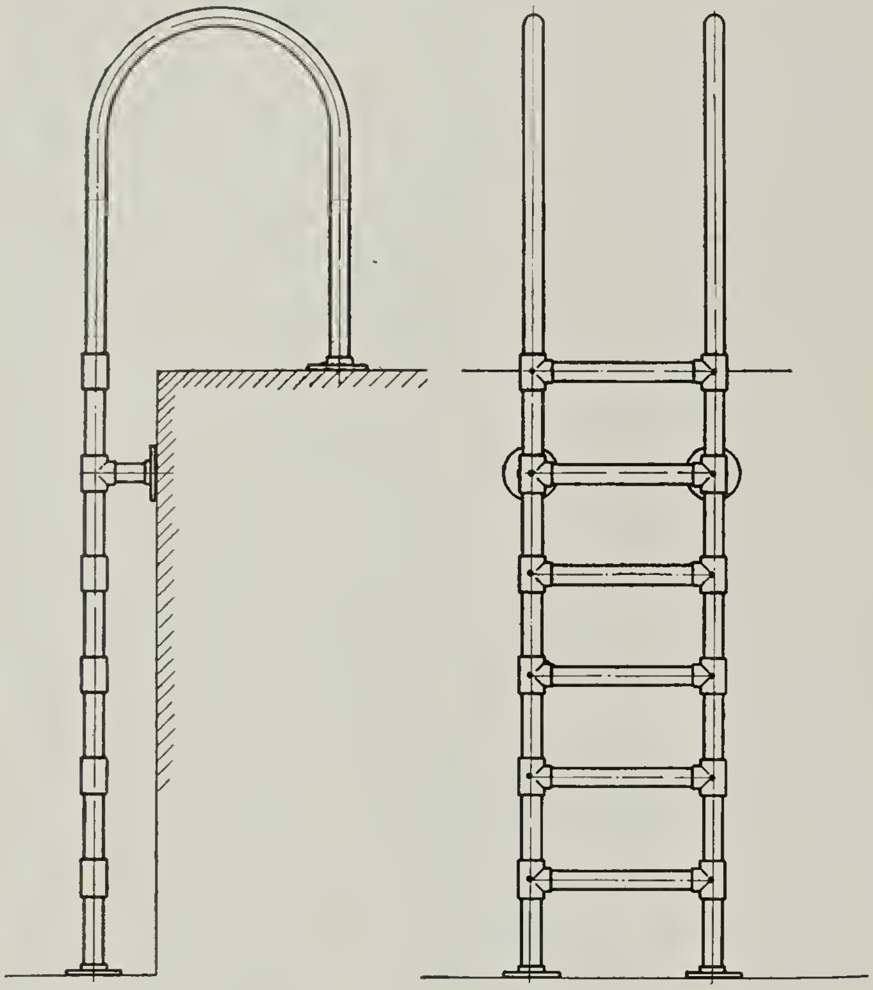
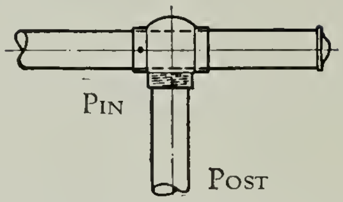
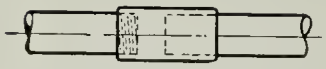


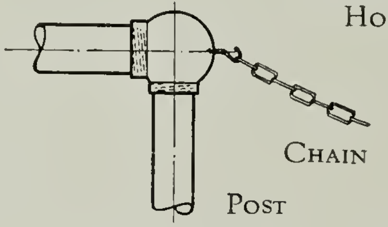
Figure 29
Pipe Ladder



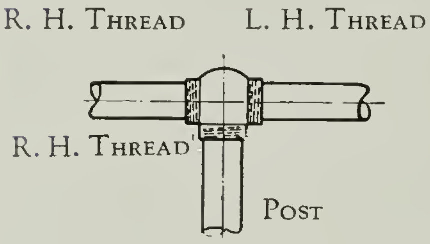
Pinned Connection of Rail to Post
Figure 30



Vulcan Expansion Sleeve
Figure 31



Connection of Chain to Post
Figure 32
Typical Railing Details



Threaded Connection of Rail to Post
Figure 33

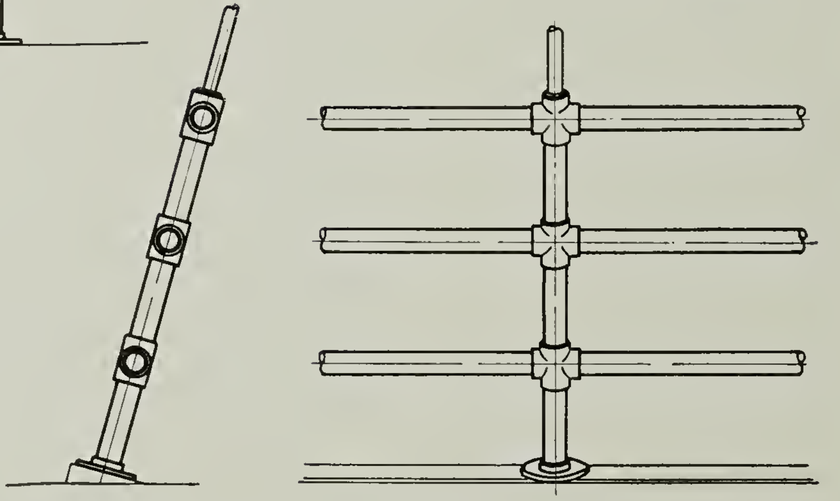
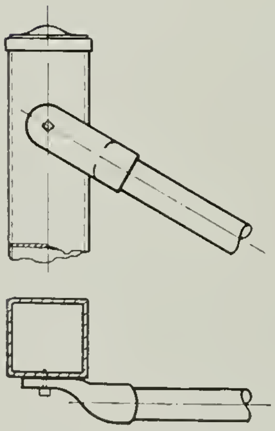


Figure 35
Running Track Railing



Connection of Pipe Railing to Tubular Post
Figure 34
Typical Railing Details

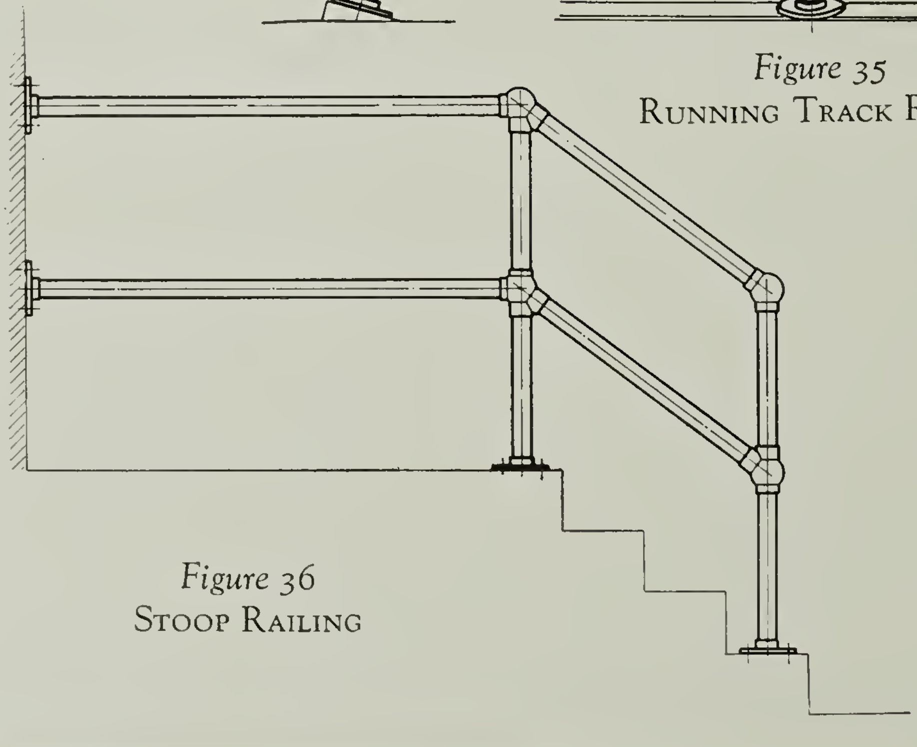
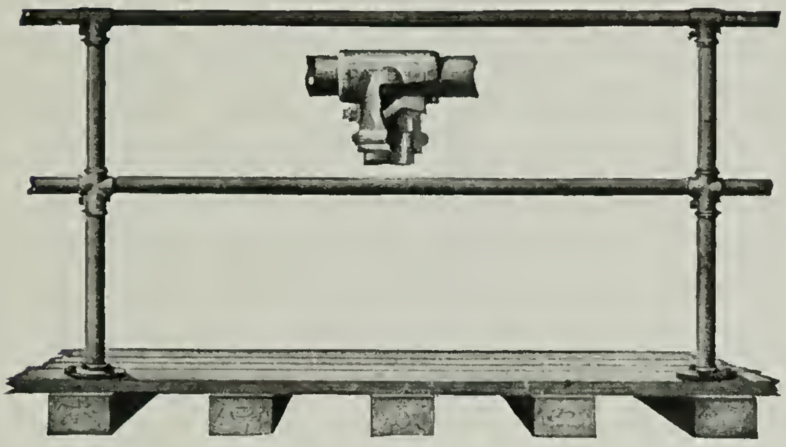
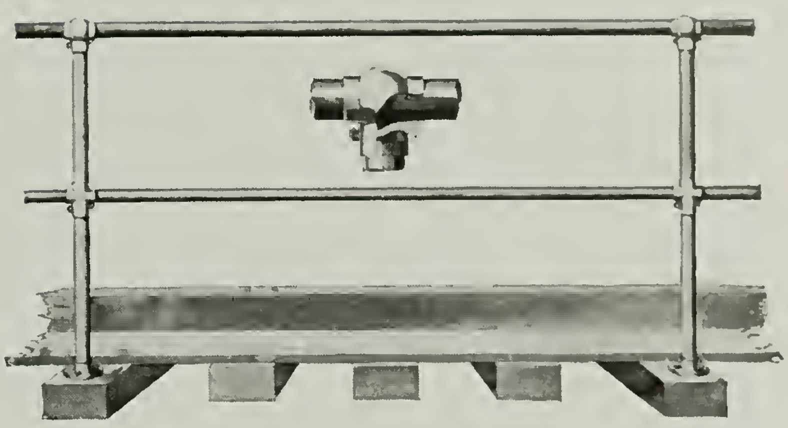


Figure 36
Stoop Railing



"Subway" Design



"B.R.T." Design

VULCAN PATENTED "ANTI-RATTLE" RAILINGS

THE Fittings used in the Railings shown on this page are of Malleable Iron and have been designed especially for use in connection with Elevated Roads, Subways, Viaducts, Bridges, Boardwalks, etc., to withstand the vibration of such Structures.

The "Subway" Design Fitting uses a drop forged key or wedge bolt which is driven up by a hammer blow and then secured by a nut on the opposite end, and the shape of the key as well as its material makes the joint elastic under vibration. Posts are of 1¼″ Pipe and both Rails are of 1″ Pipe.

The "B.R.T." Design Fitting is similar and heavier and the Top Fitting is of the Ball Type. Posts and Top Rail are of 1½″ Pipe and the lower Rail is of 1¼″ Pipe.

The "Manhattan L" Design Fitting is furnished with a split taper ring which encircles and grips the Pipe under the pressure of the special lock nut. Posts are of 1¼″ Pipe and both Rails are of 1″ Pipe.

The "Vulcan" Design Fitting has a tapered slot into which a lead wedge is caulked, completely filling the slot and wedging the Pipe and Fitting to a tight fit. Posts and Top Rail are of 2″ Pipe and the lower Rail is of 1½″ Pipe.

Although the sizes of Pipe specified above are standard, the Railings can be furnished with any size Pipe or with combinations of different sizes of Pipe for Posts and Rails. Although the designs shown have two horizontal Rails, these Railings can be made with any number of Rails. Pipe for the Horizontal Rails is furnished in Random Lengths and joined with Standard Couplings or Special Flush Inside Dowels. Post spacing can vary to suit requirements.

The Flanges have been especially designed to further withstand the vibration of the Structures on which these Railings are used.

We have furnished over 200 miles of Railing equipped with the Anti-Rattle Fittings shown.

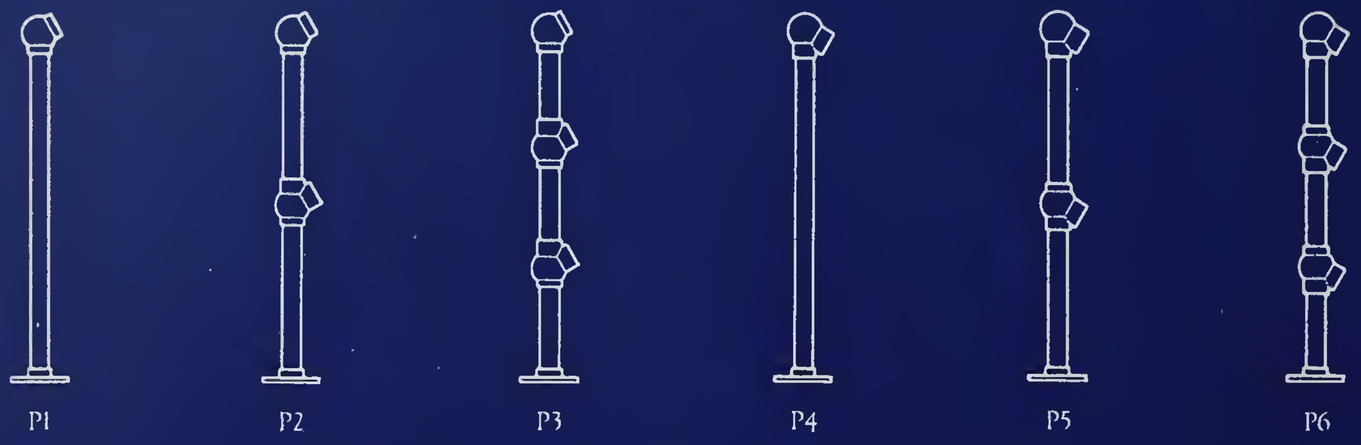
Full size drawings, samples and any further information are available upon application.

Manhattan "L" Design

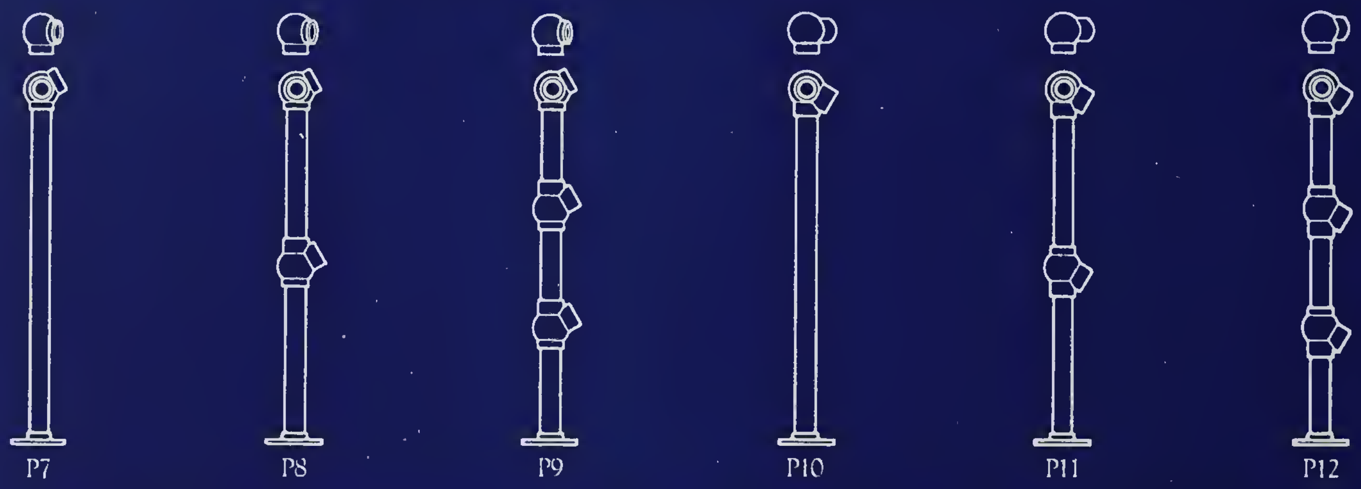
"Vulcan" Design

VULCAN STANDARD DETAILS

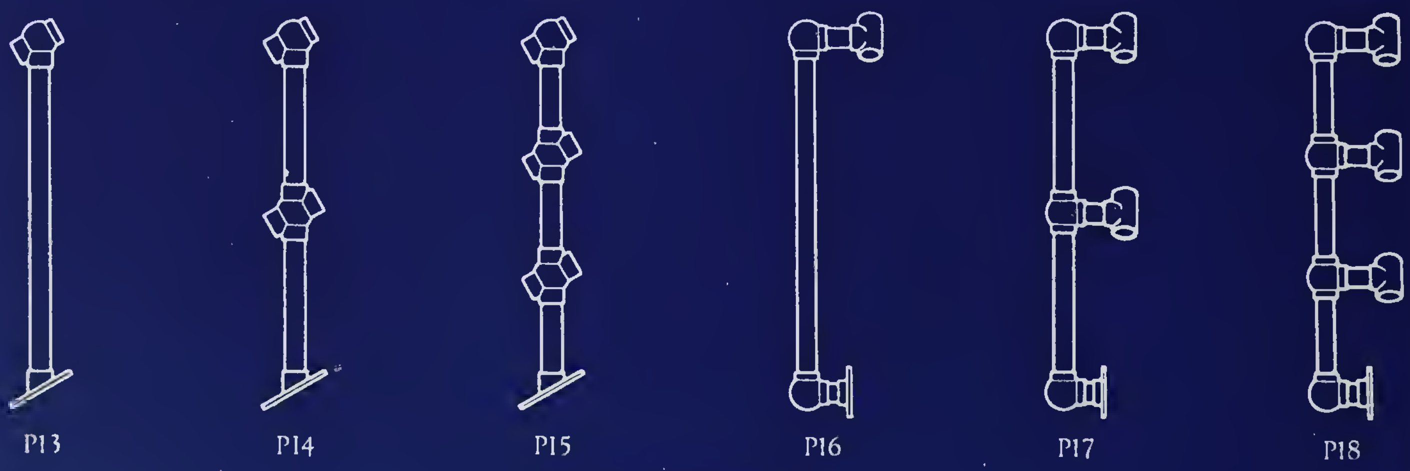
TYPICAL RAILING POSTS
MADE WITH PIPE AND STANDARD "VULCAN" FITTINGS



Stair Starting and Landing Posts



Stair Landing Posts (with side outlets, right or left) (note plan of posts)

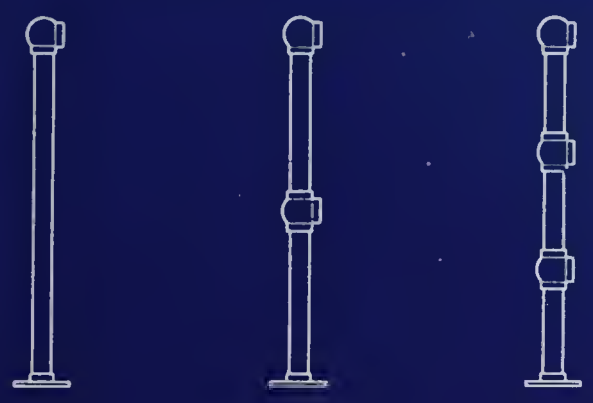


Stair Line Posts

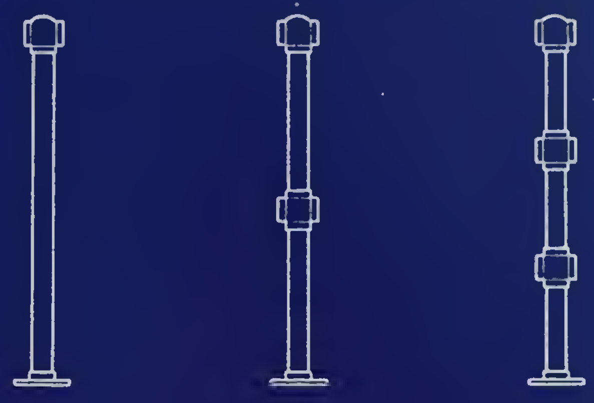
Shown above, and on opposite page, are groups of posts of the types most frequently used in the construction of pipe railing. Although these sketches show posts for one, two and three horizontal rails, the two-line railing is most generally used. However, railings can be made with any number of horizontal rails.

VULCAN STANDARD DETAILS

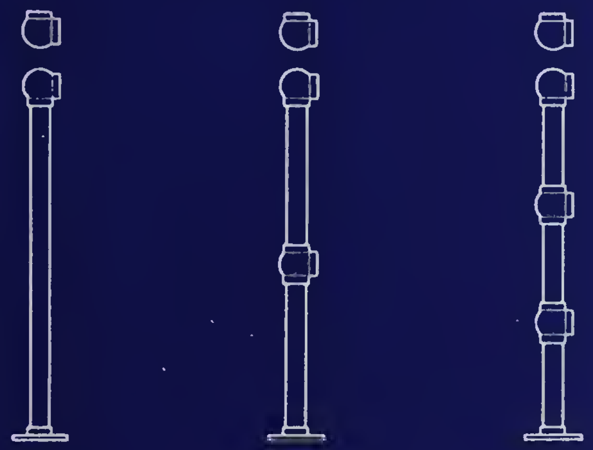
TYPICAL RAILING POSTS
MADE WITH PIPE AND STANDARD "VULCAN" FITTINGS


P19 P20 P21

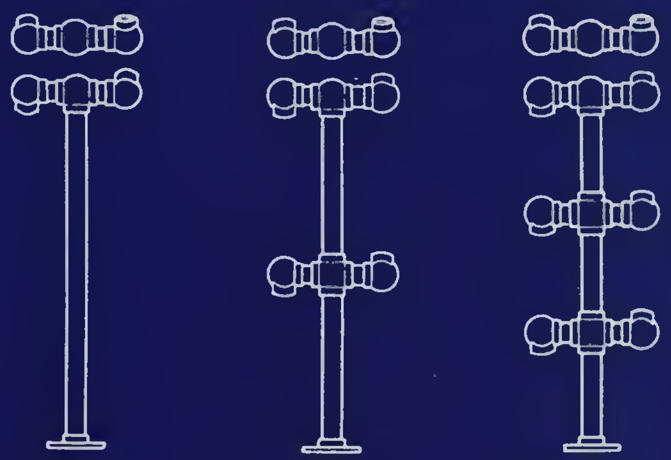
Level End Posts


P22 P23 P24

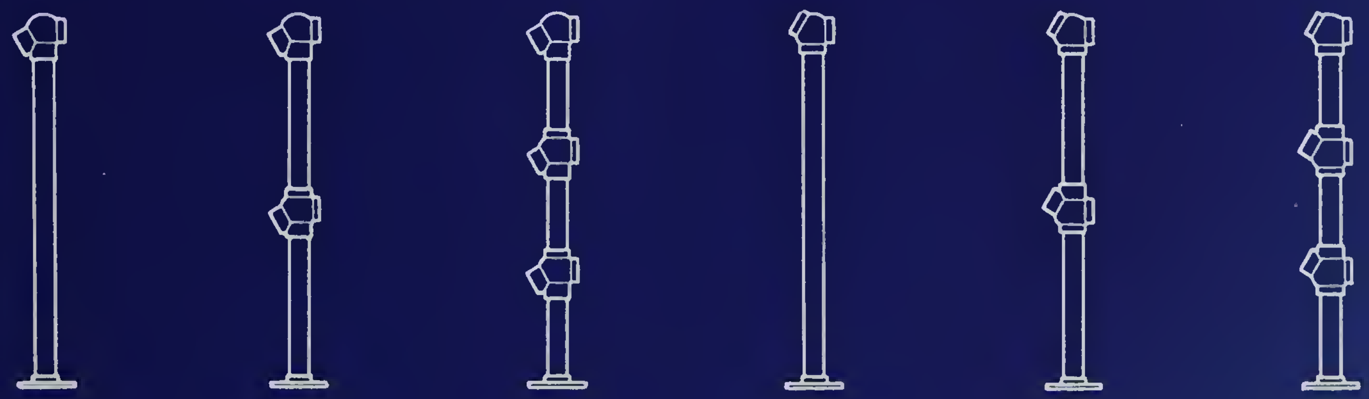
Level Line Posts


P25 P26 P27

Level Corner Posts


P28 P29 P30

Stair Landings or Platform Posts


P31 P32 P33 P34 P35 P36

Stair Landing Posts Where Railings Continue Level

Railings with any of the above posts and many others can be quickly made up from the large stock of Standard "Vulcan" Pipe and Fittings continually on hand.

When inquiring for prices on Standard Vulcan Railing Posts, the height should be specified and also whether the outlets are R. H. or L. H. in side outlet posts and whether outlets are threaded R. H. Threads or L. H. Threads or Reamed.

VULCAN BRIDGE RAILINGS

THE following pages show a number of Standard Bridge Railing Designs giving some of the various combinations that can be made by the use of Pipe, Fittings, Bars (round and square), Flats, Channels, Angles, etc.

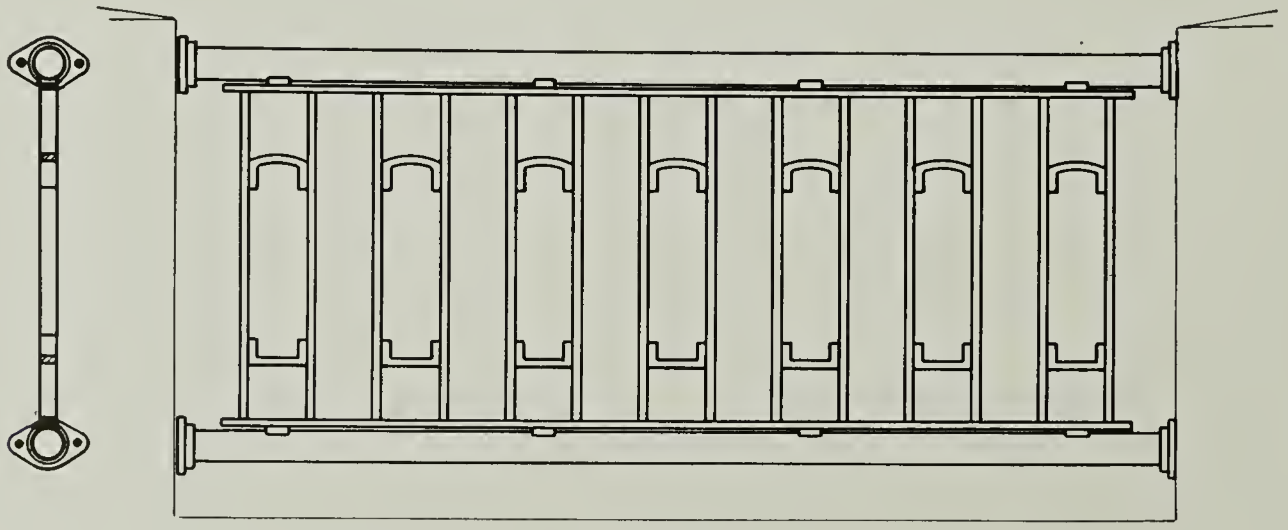
The present day design of Bridge Railings has, as its basic principle, Pipe for the Rails and Posts with Filling of Round or Square Pickets or other Structural Shapes. These designs offer simplicity with strength together with more resistance to the action of the elements, and the cost of maintenance is therefore reduced to a minimum.

The number of combinations that can be made of these shapes is almost inexhaustible.

The designs shown vary from that in which Square or Round Rods are used for the Pickets with Channels, Flats or Tees as Top Bars directly under the Pipe, and similar sections for the bottom member, to more elaborate designs using Cast Iron Posts and introducing Rings and other shapes into the Railing Panels.

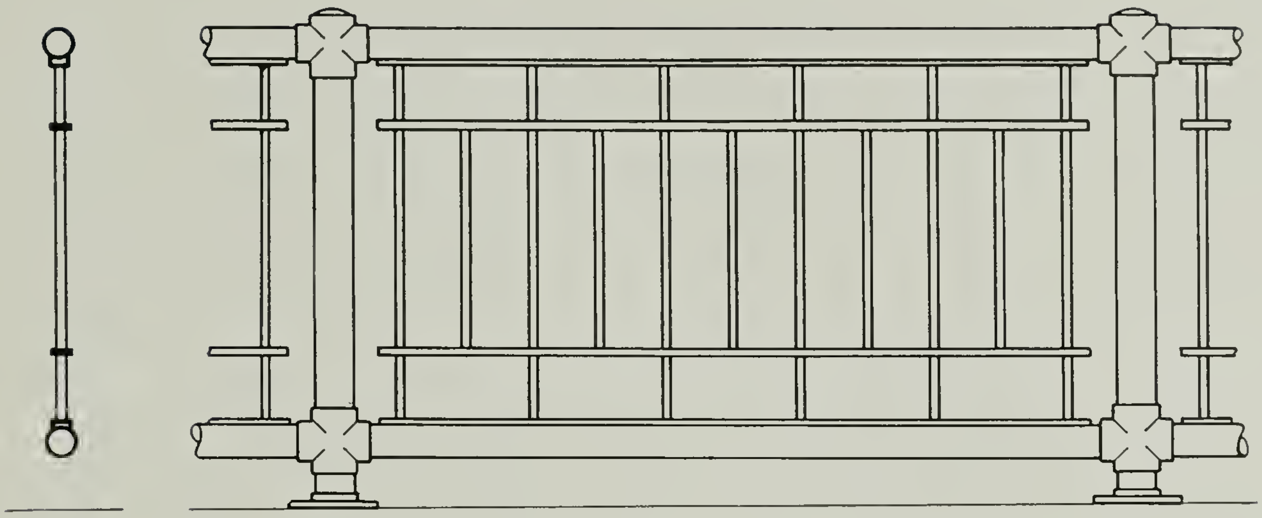
In addition to the designs shown herein are many others that we have furnished on particular specifications in order to meet the requirements of the Structures for which they have been used.

Detailed information relative to these Designs or special Designs to suit Architects' and Engineers' requirements will be submitted on request.

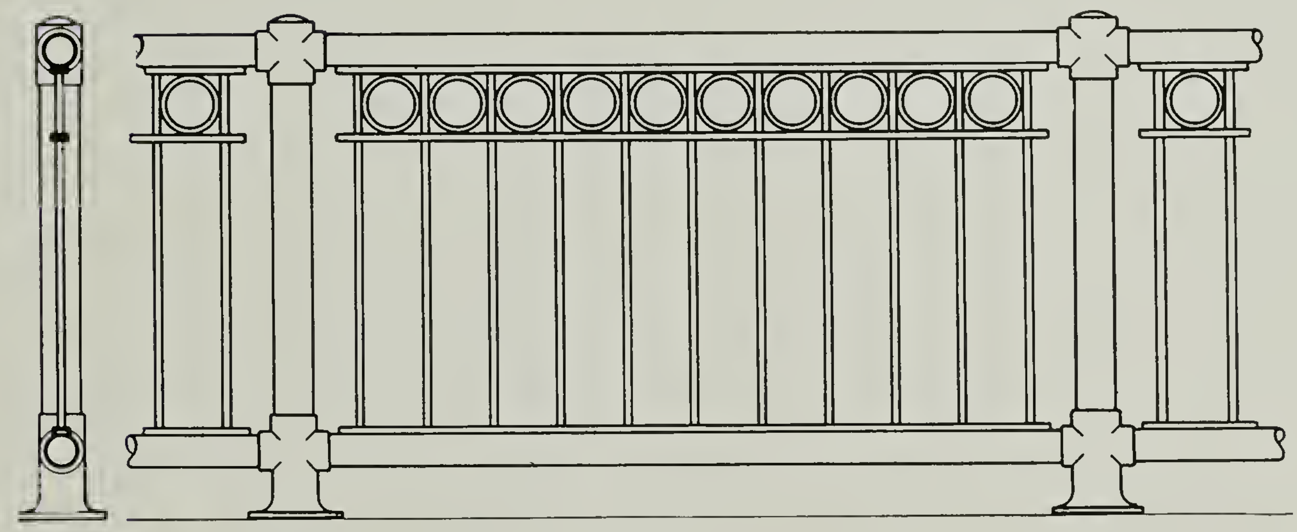


TYPE A

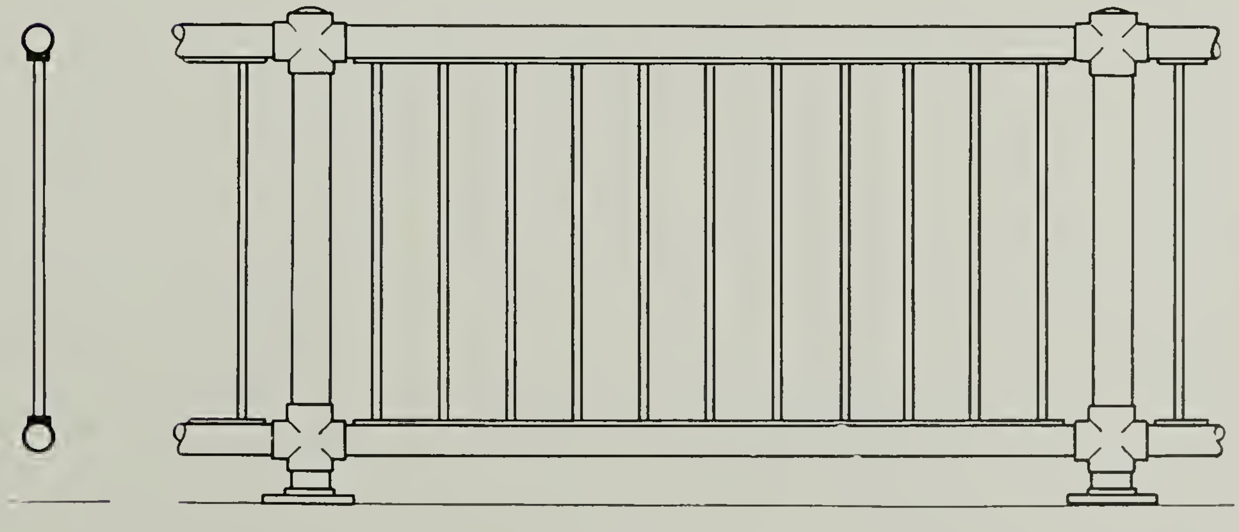
VULCAN BRIDGE RAILINGS



Type B

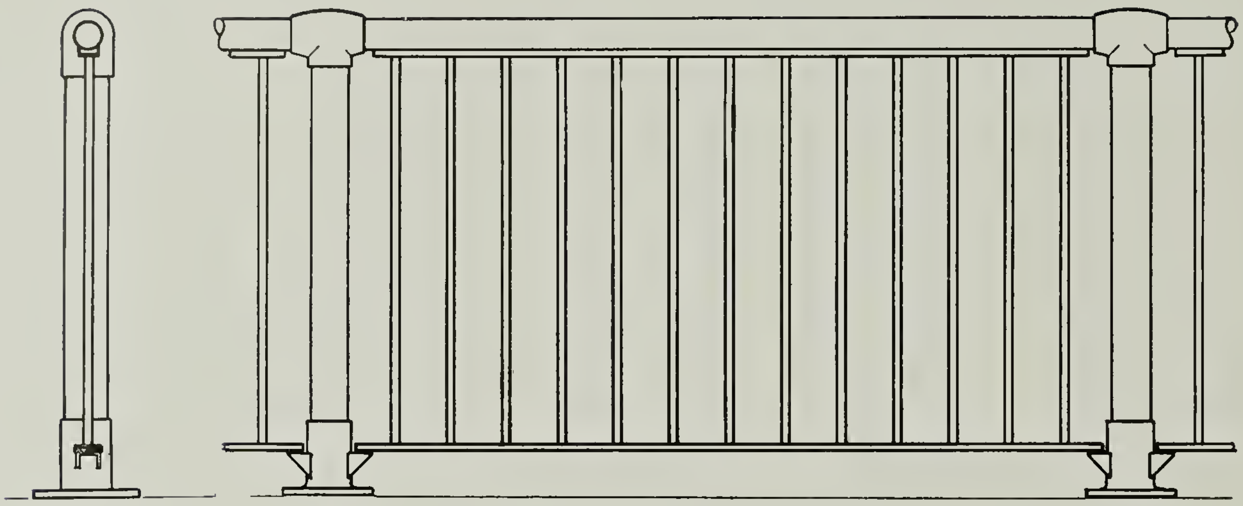


Type C

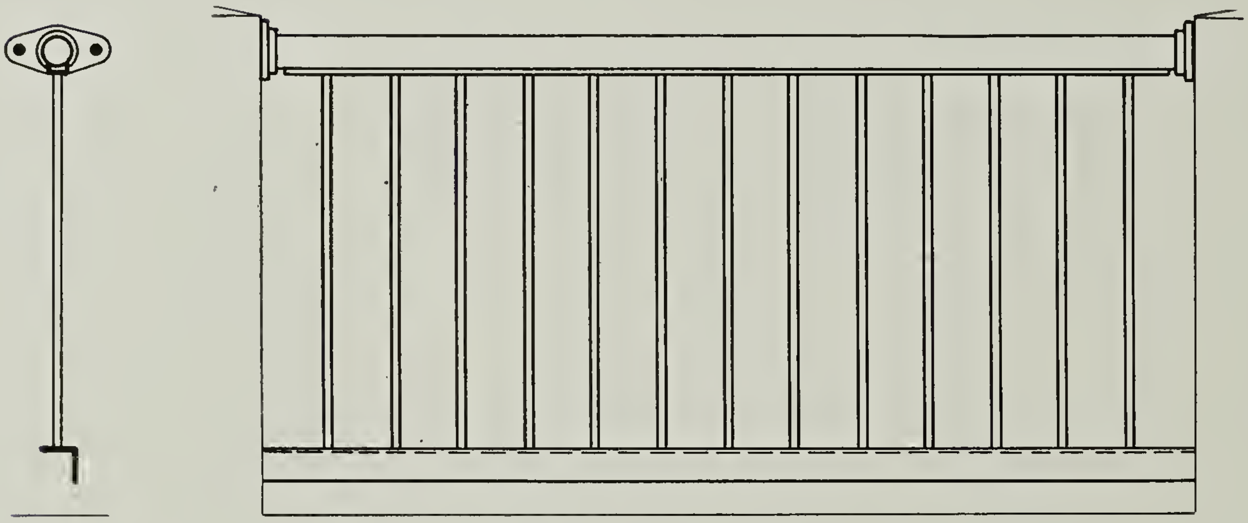


Type D

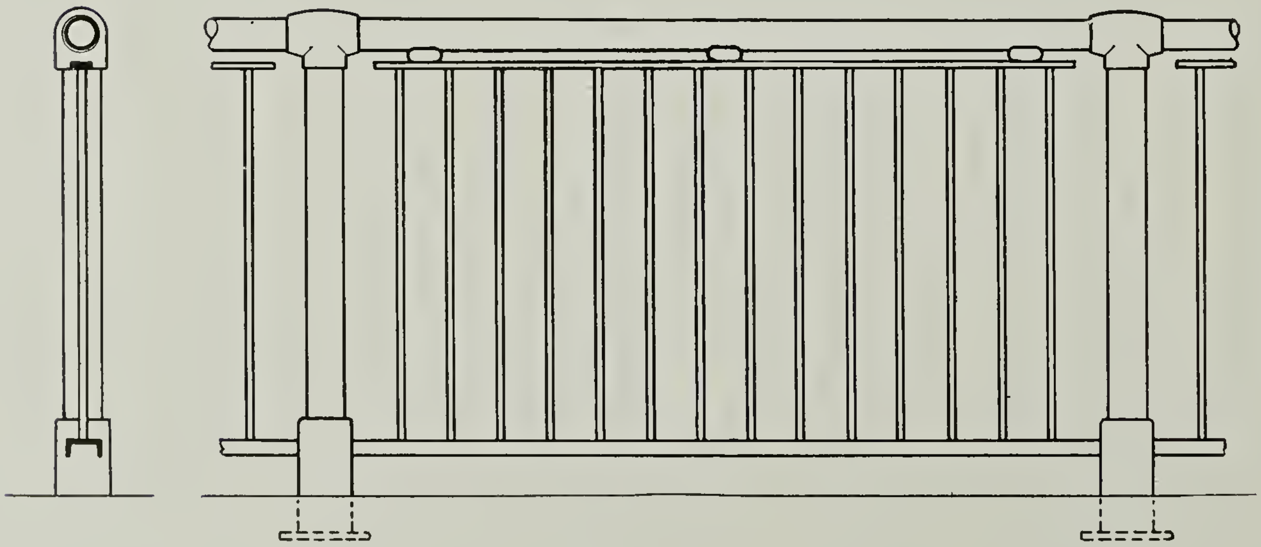
VULCAN BRIDGE RAILINGS



Type E

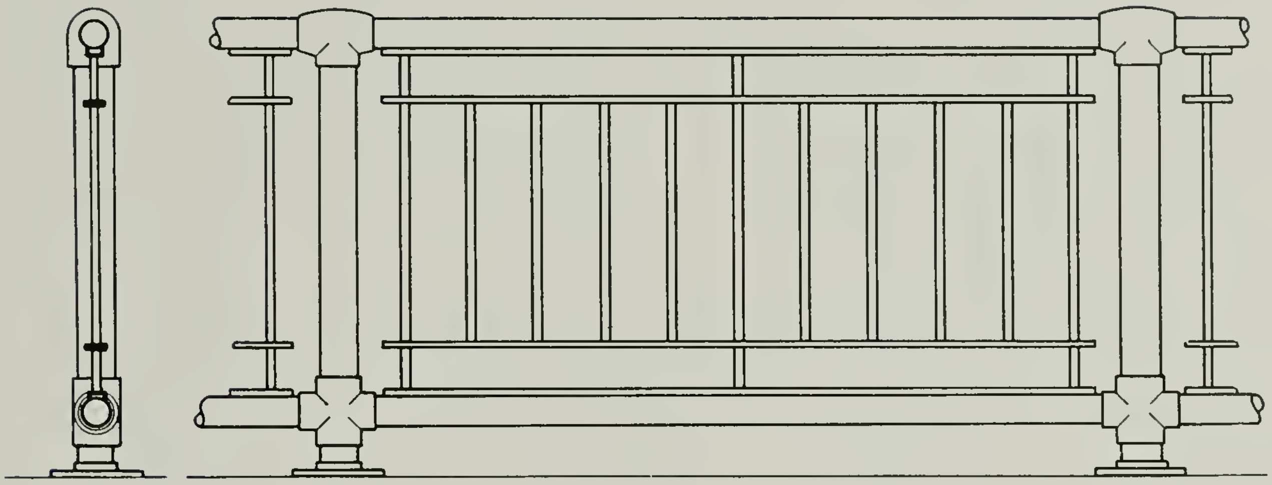


Type F

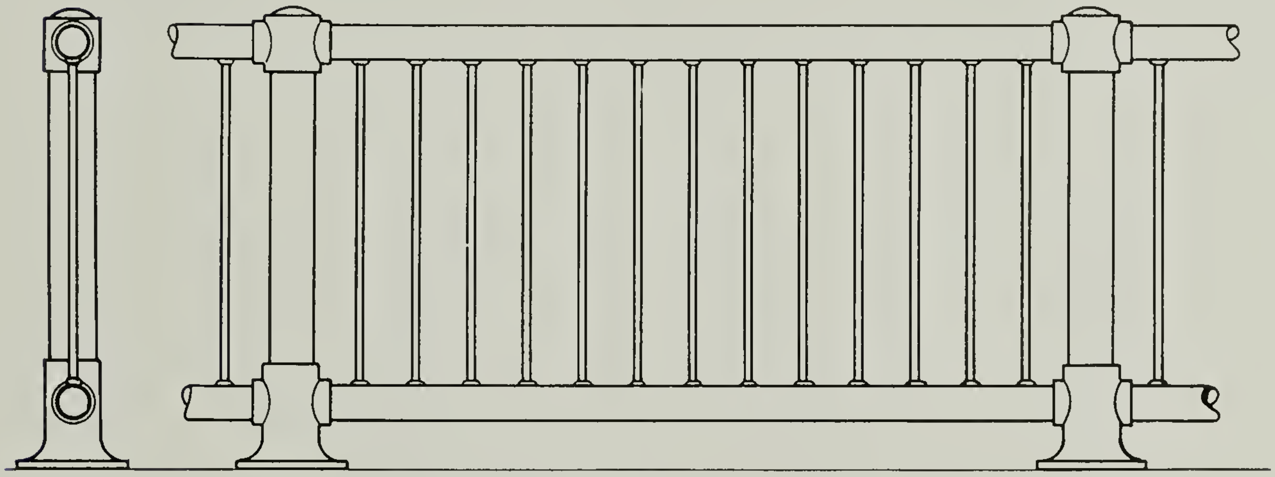


Type G

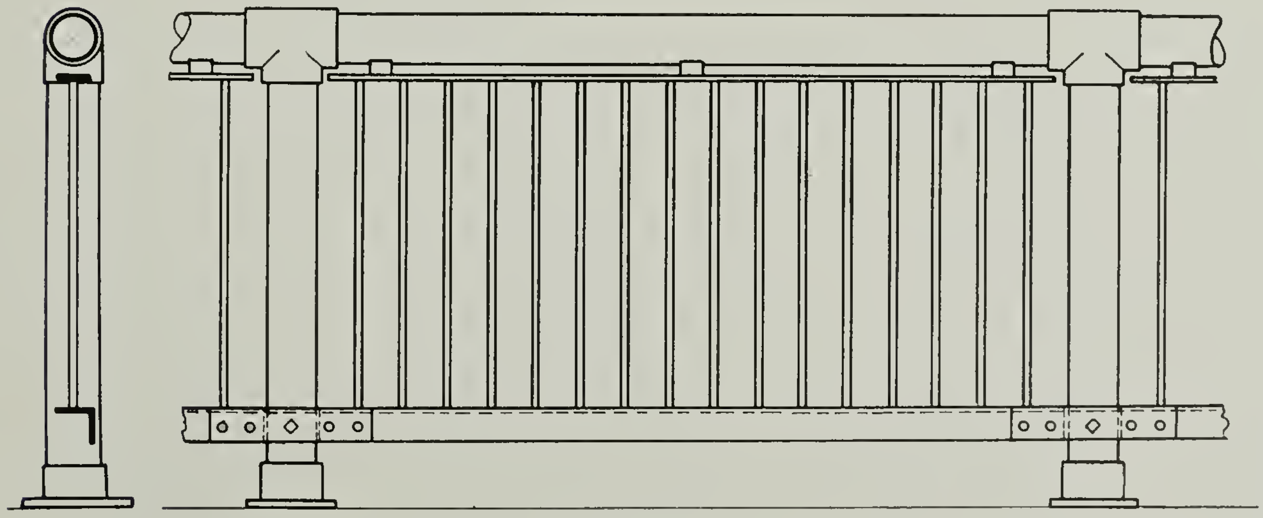
VULCAN BRIDGE RAILINGS



Type H

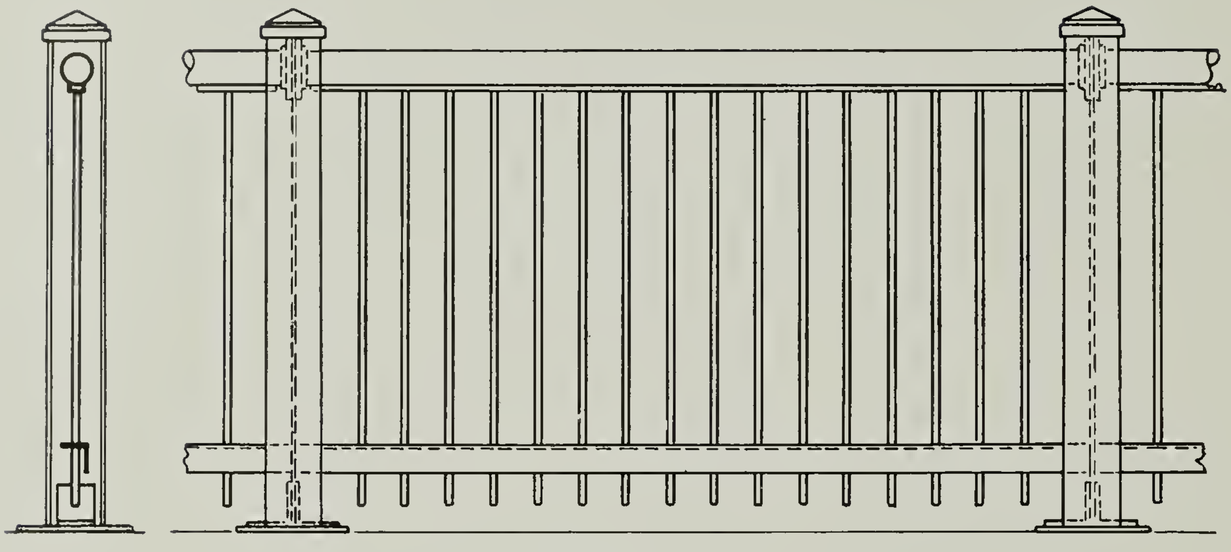


Type J

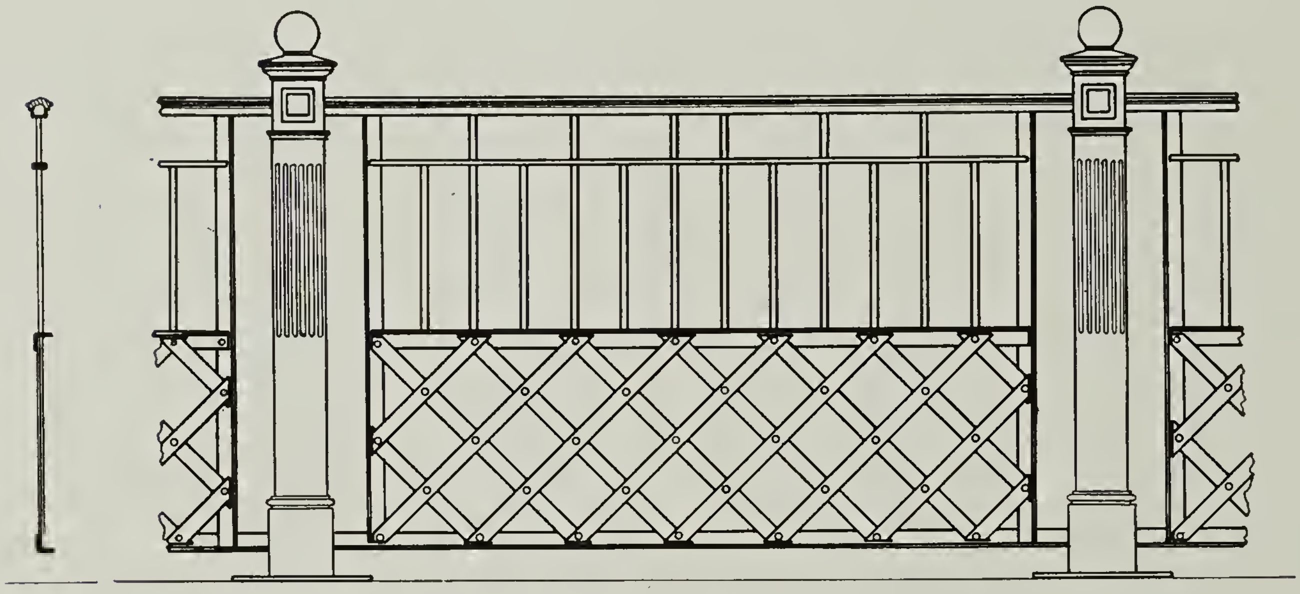


Type K

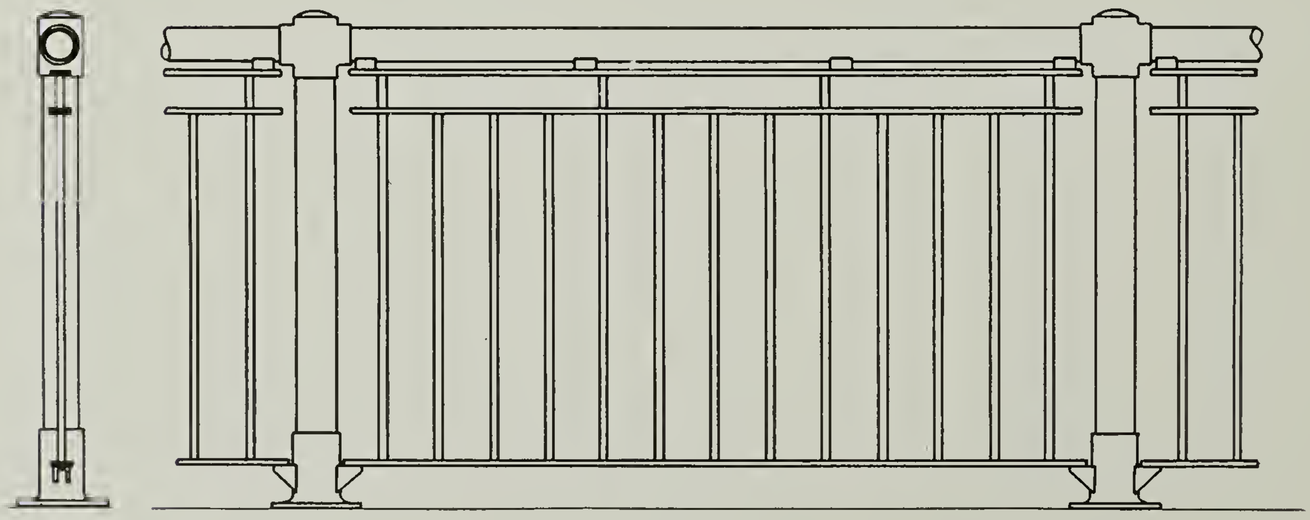
VULCAN BRIDGE RAILINGS



Type L

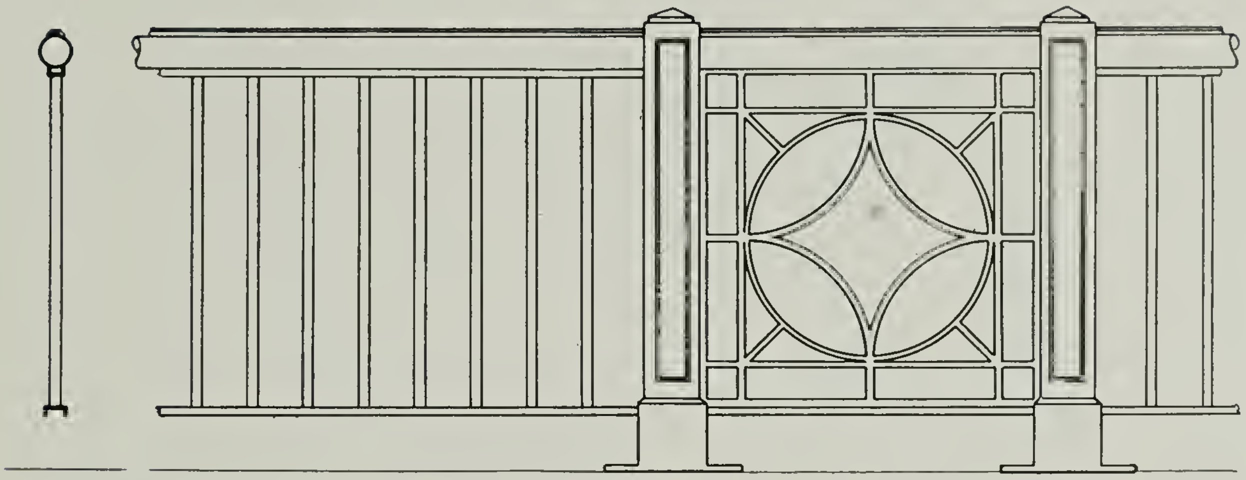


Type M

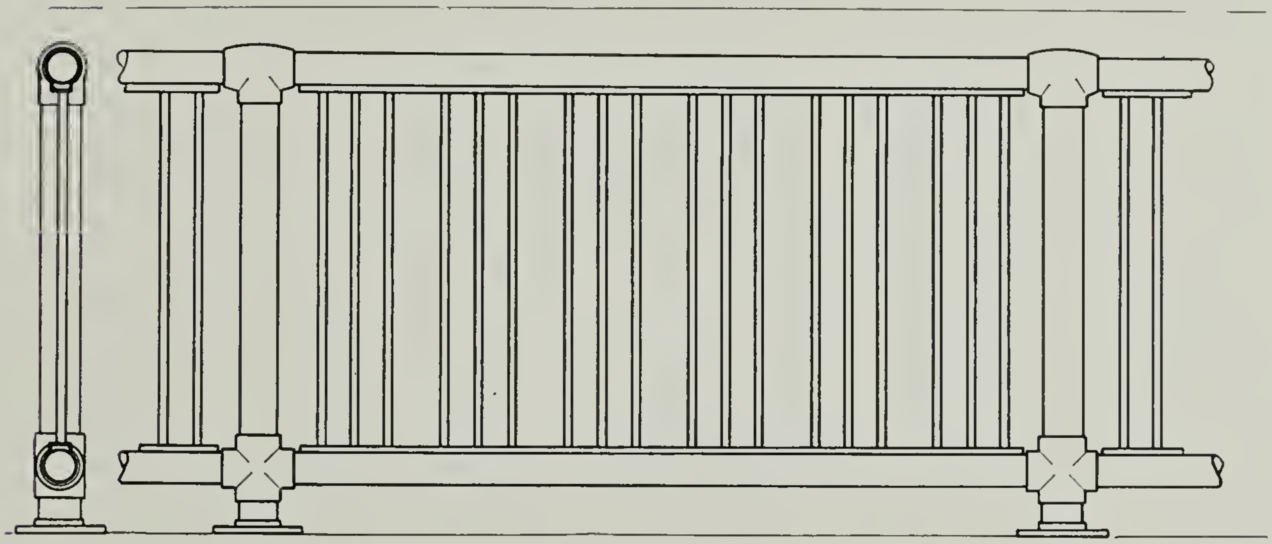


Type N

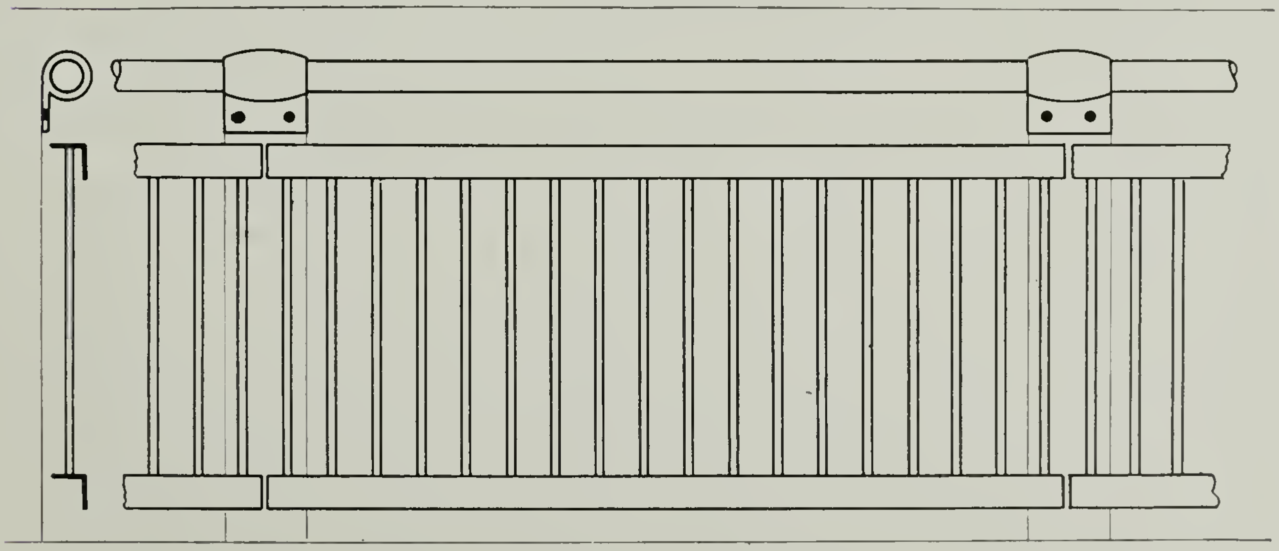
VULCAN BRIDGE RAILINGS



Type O

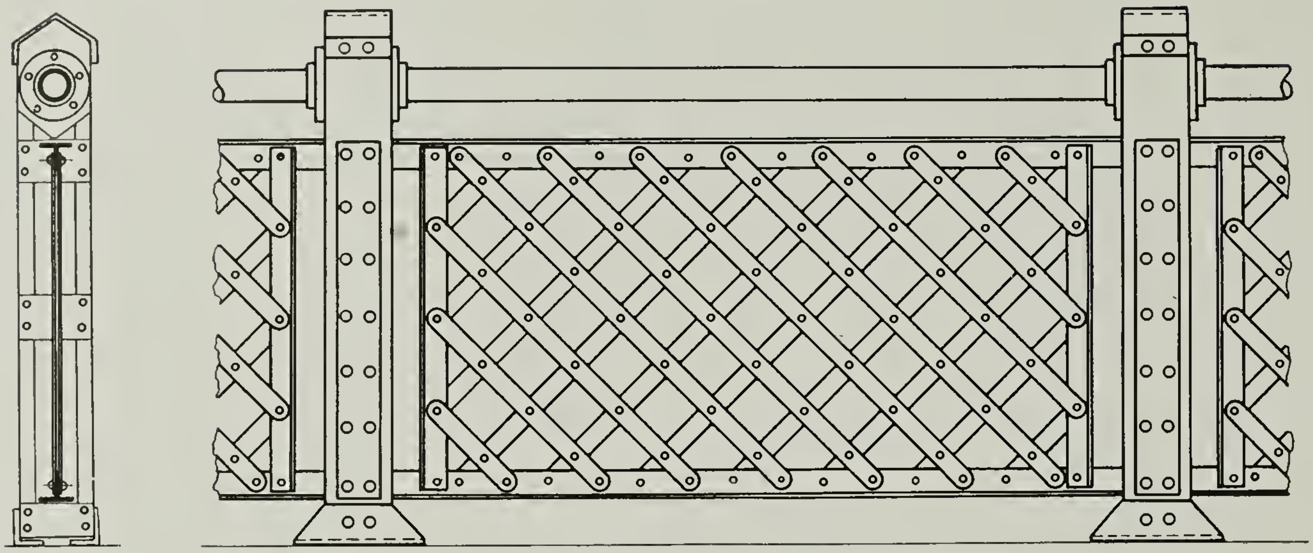


Type P

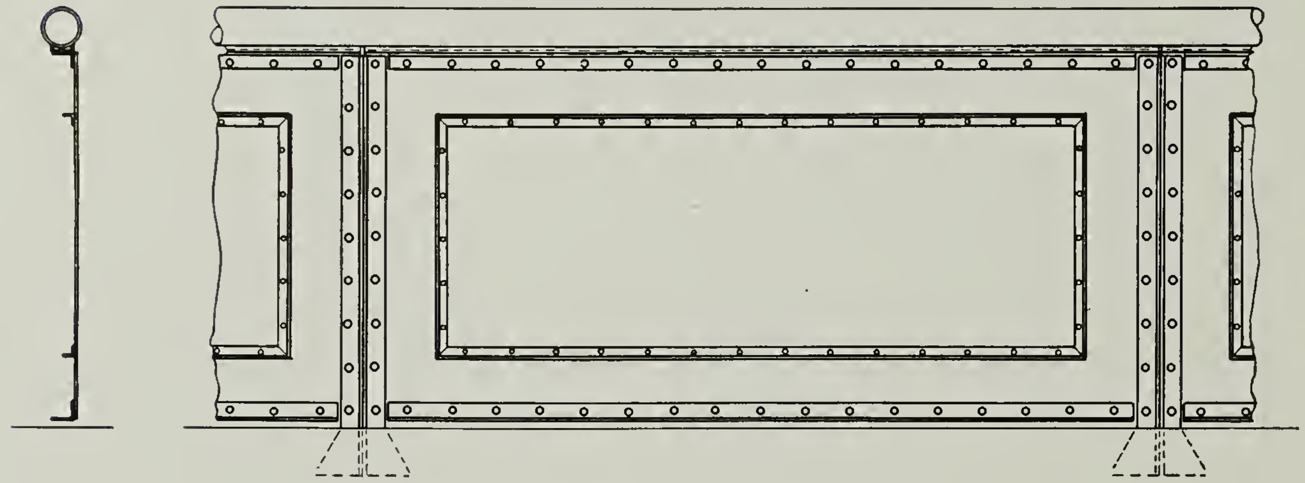


Type R

VULCAN BRIDGE RAILINGS



Type S



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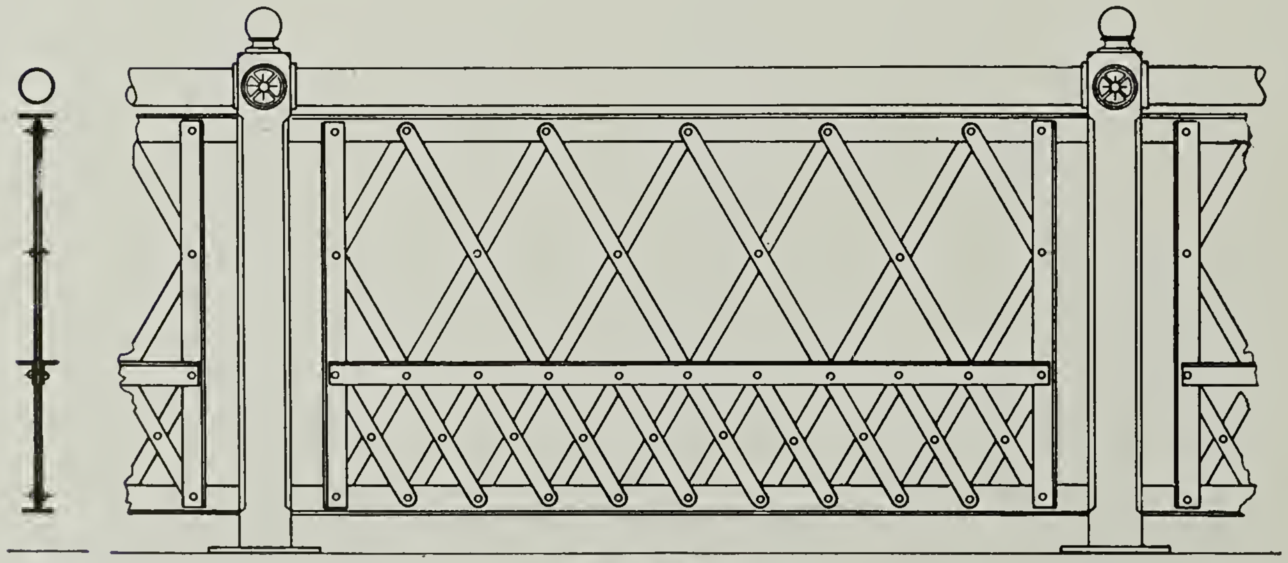
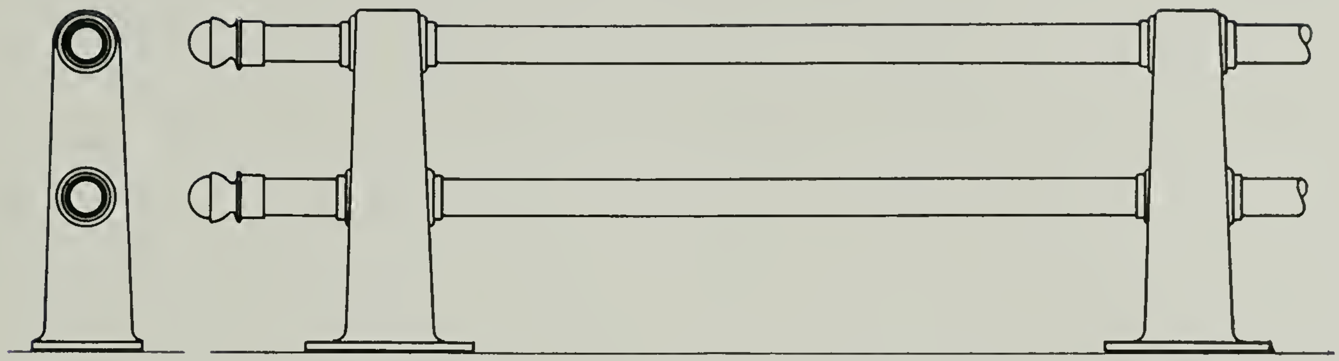


Type U

VULCAN BRIDGE RAILINGS



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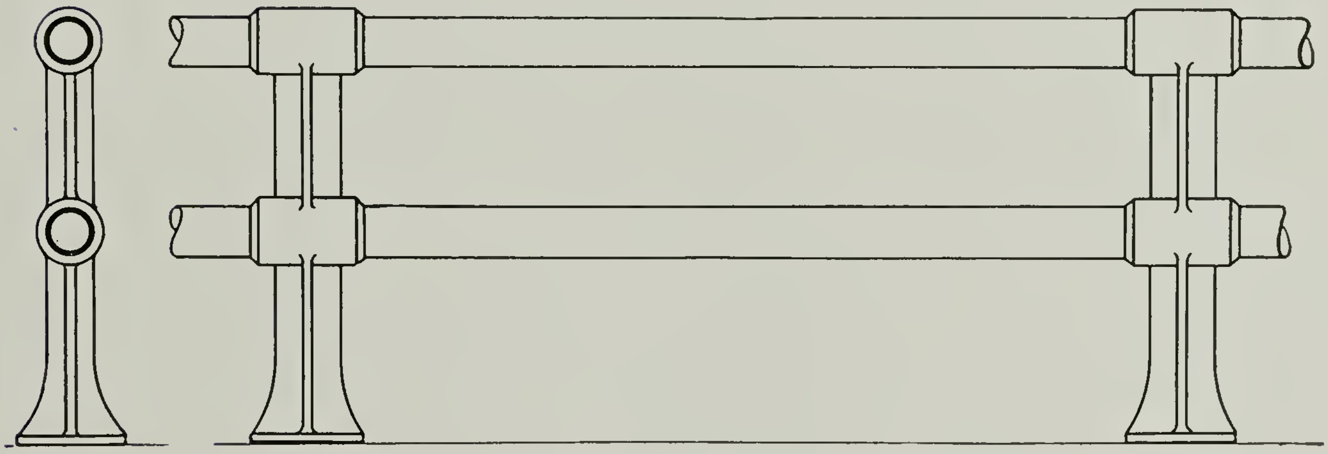

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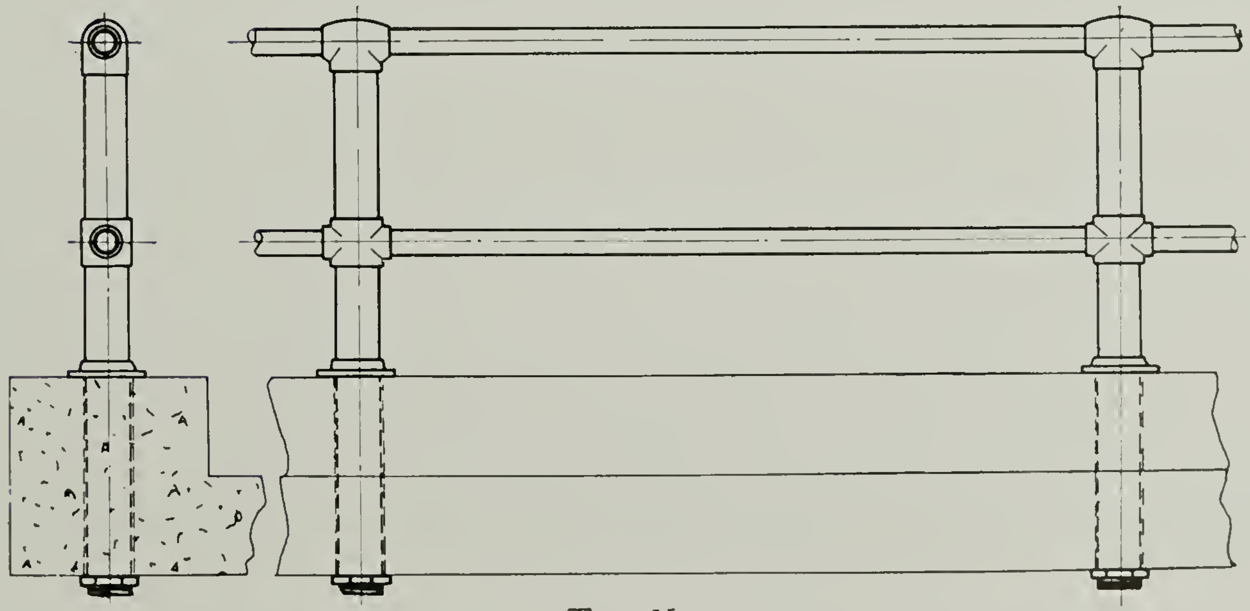

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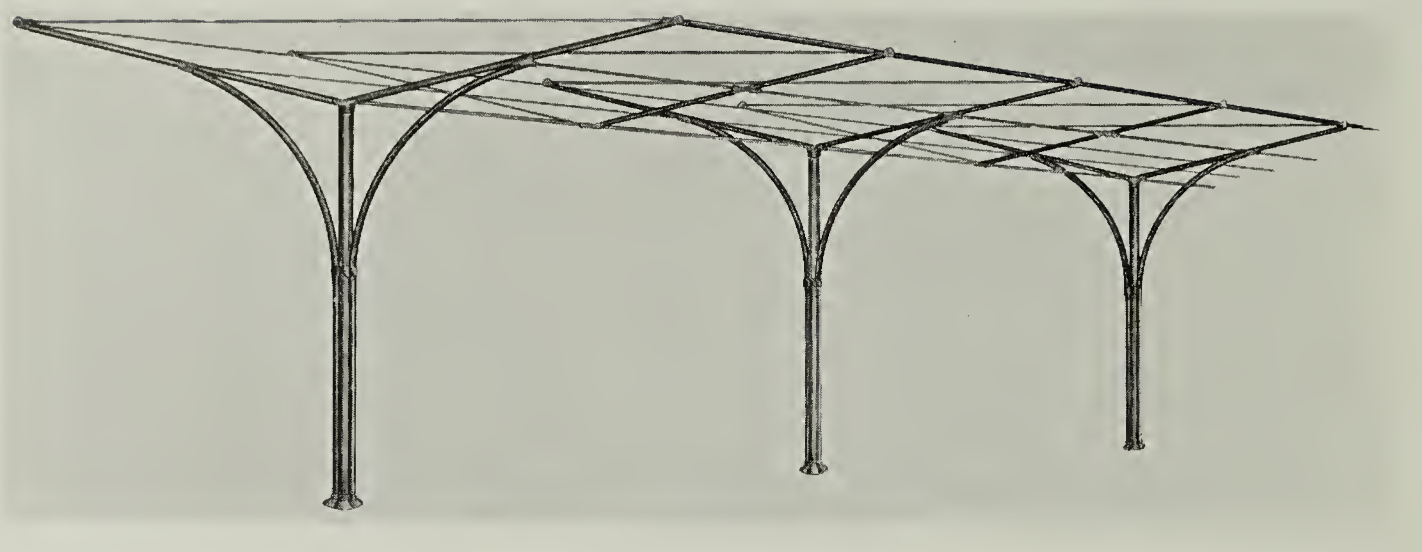
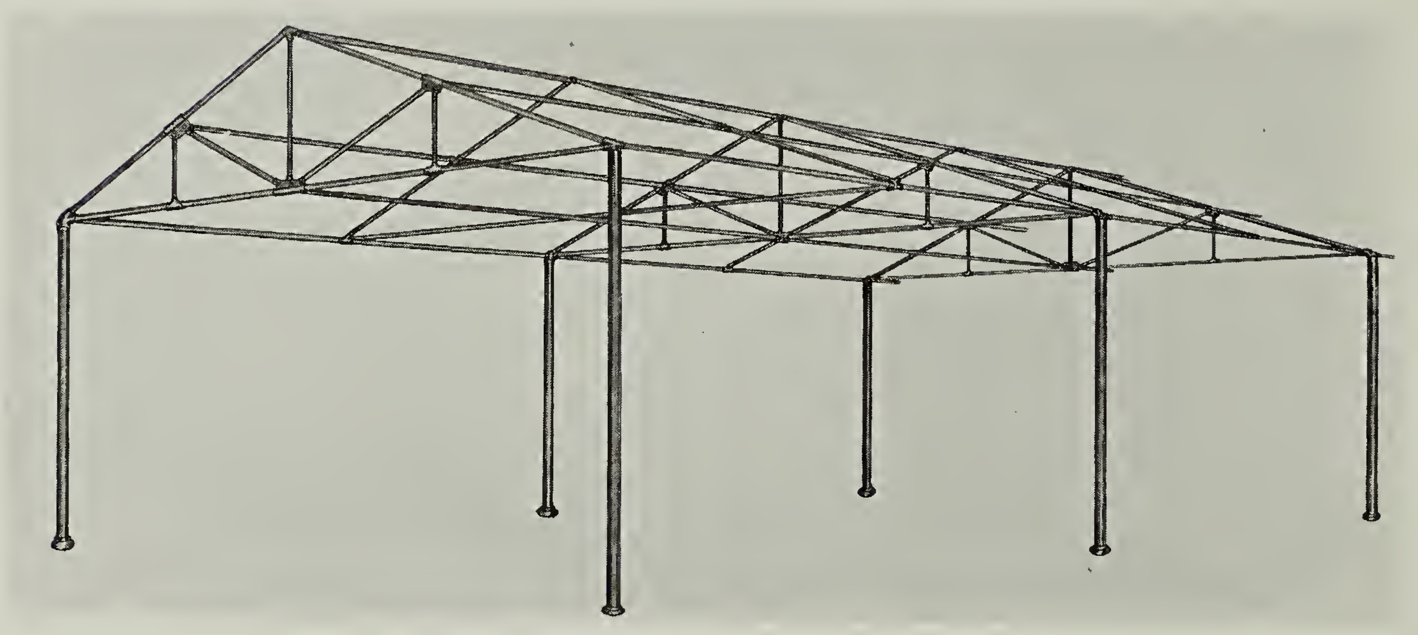
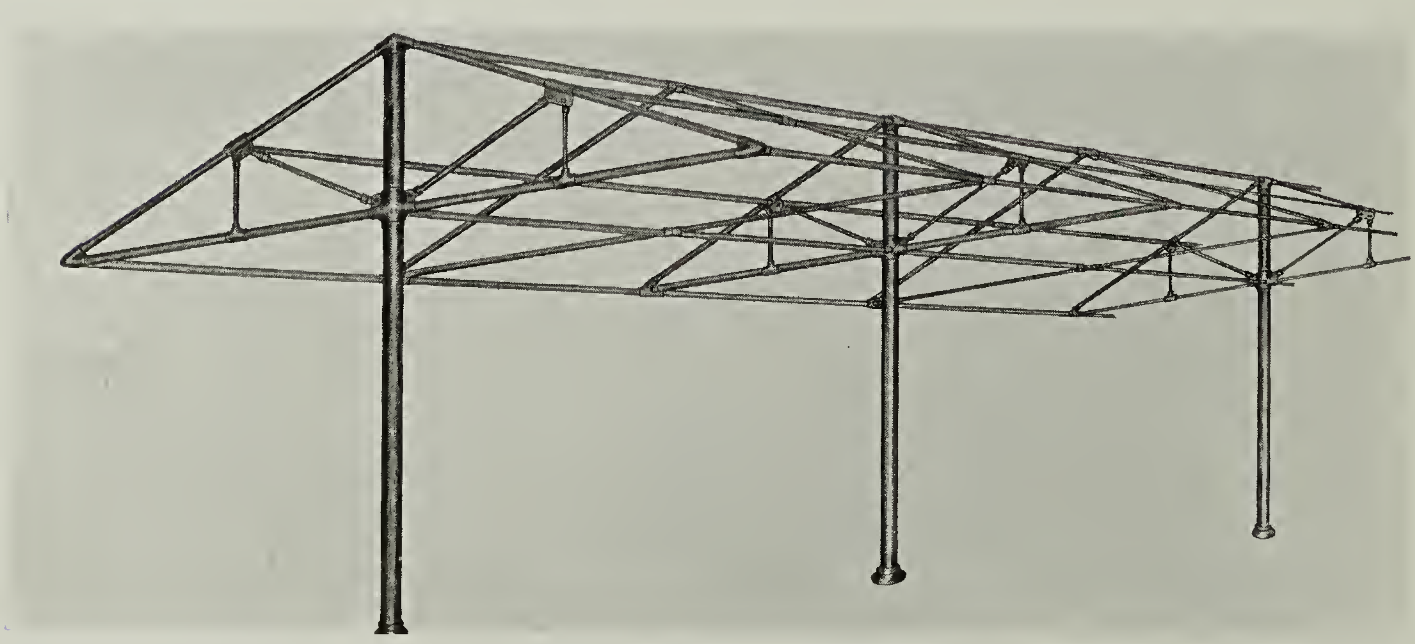


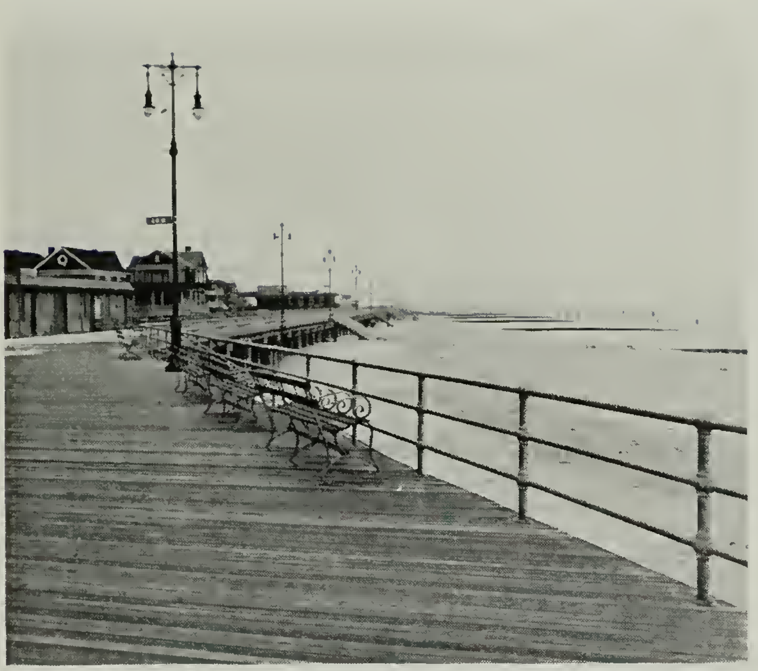
Umbrella Type Shelter

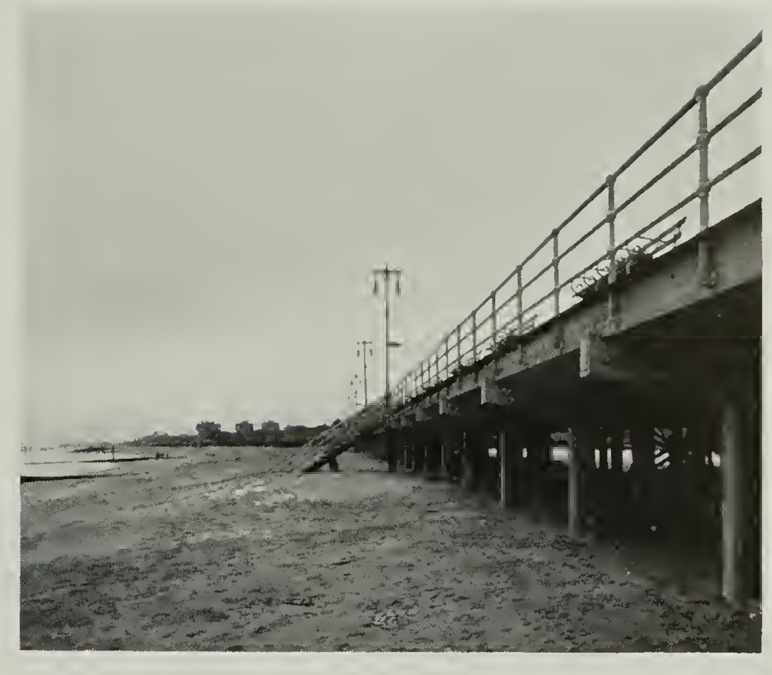


Canopy with Side Posts



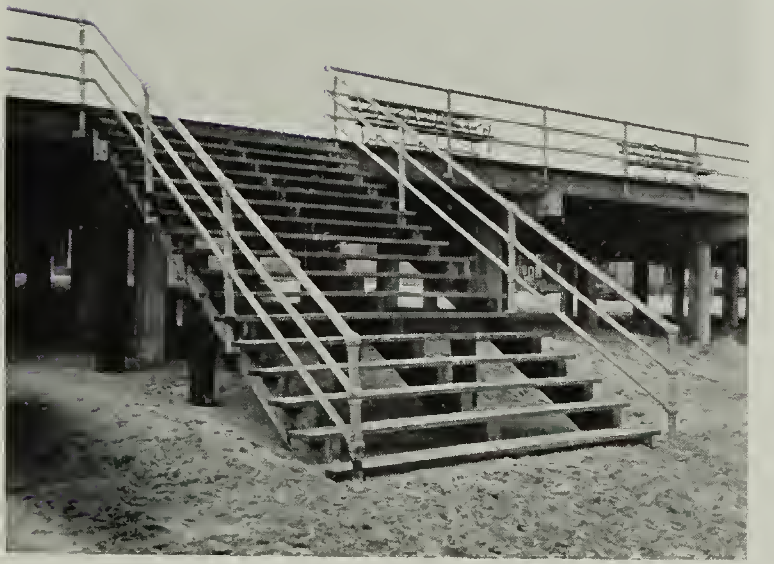
Canopy with Center Posts

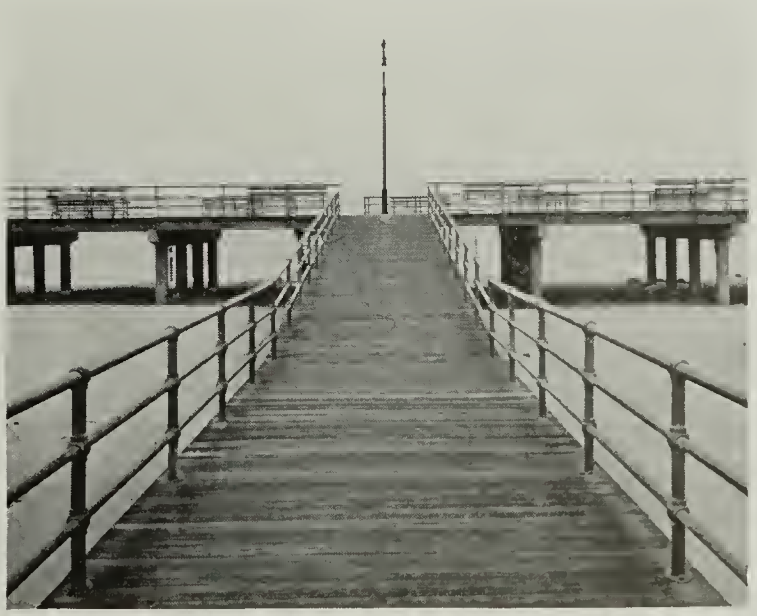


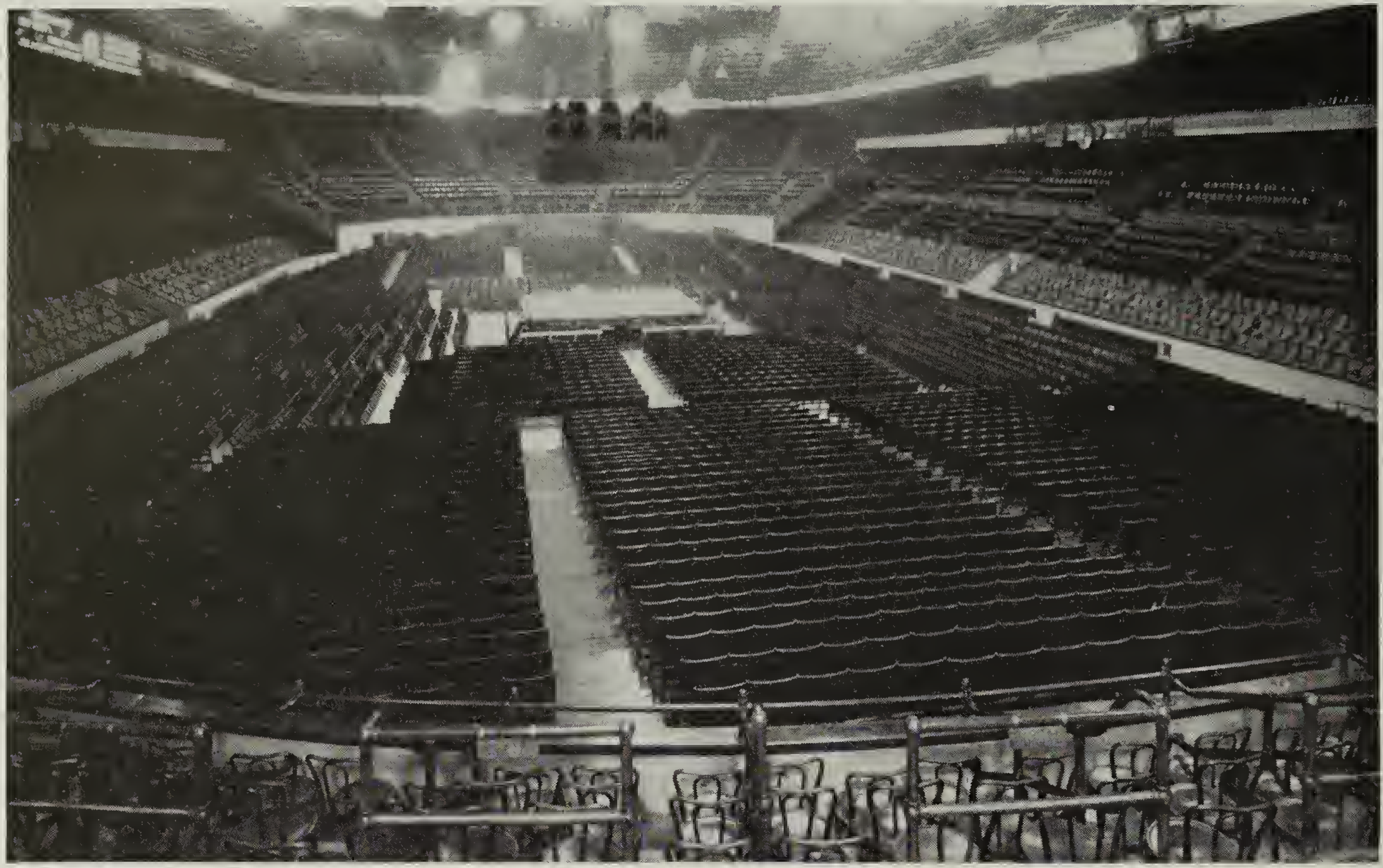


BOARDWALK RAILING

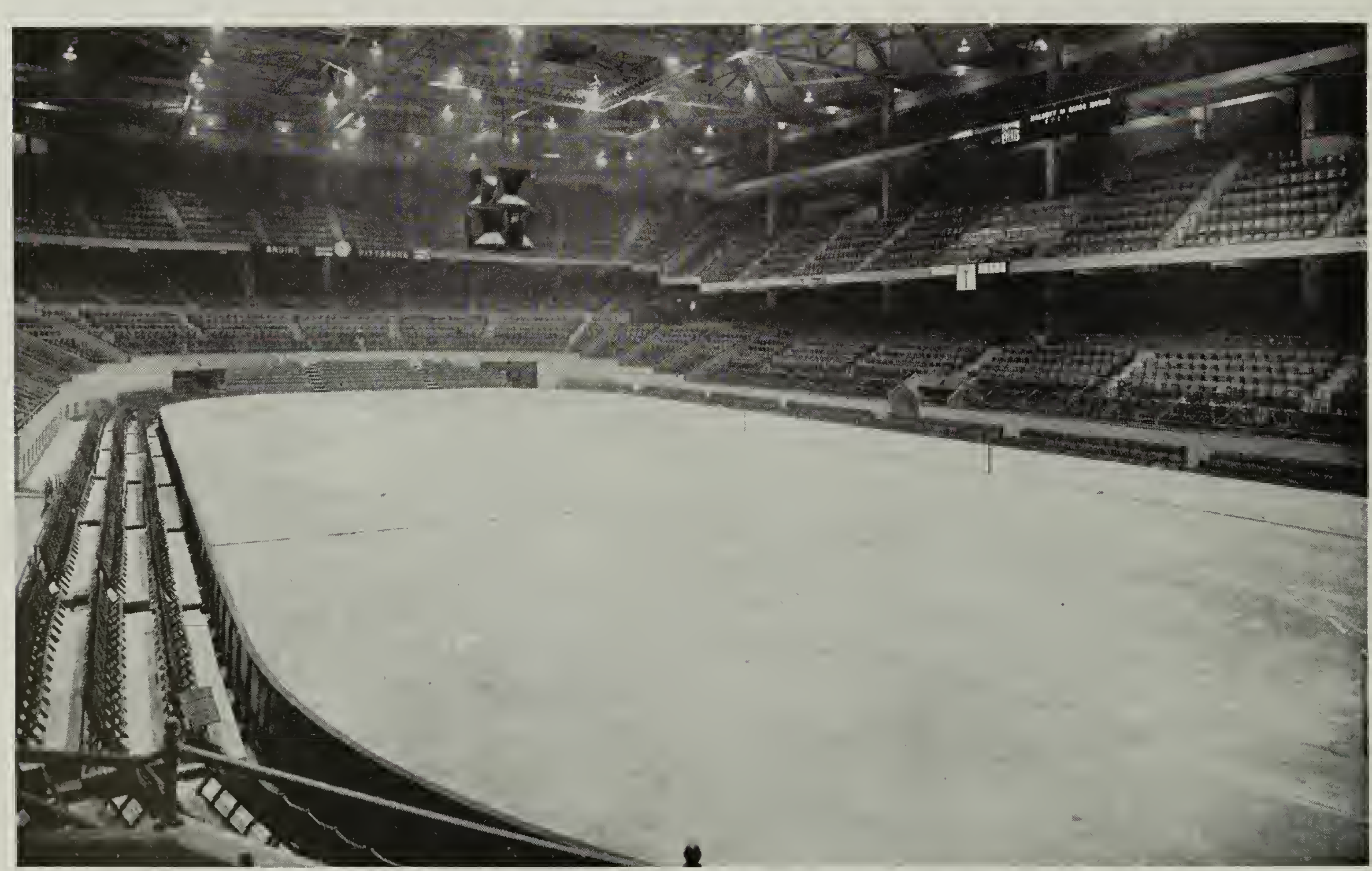
WE HAVE furnished and erected over thirty miles of Railing of this type for Boardwalks at Rockaway Beach, N. Y., Long Beach, N. Y., Coney Island, N. Y., Atlantic Beach, N. Y., Atlantic City, N. J., Virginia Beach, Va., and others.



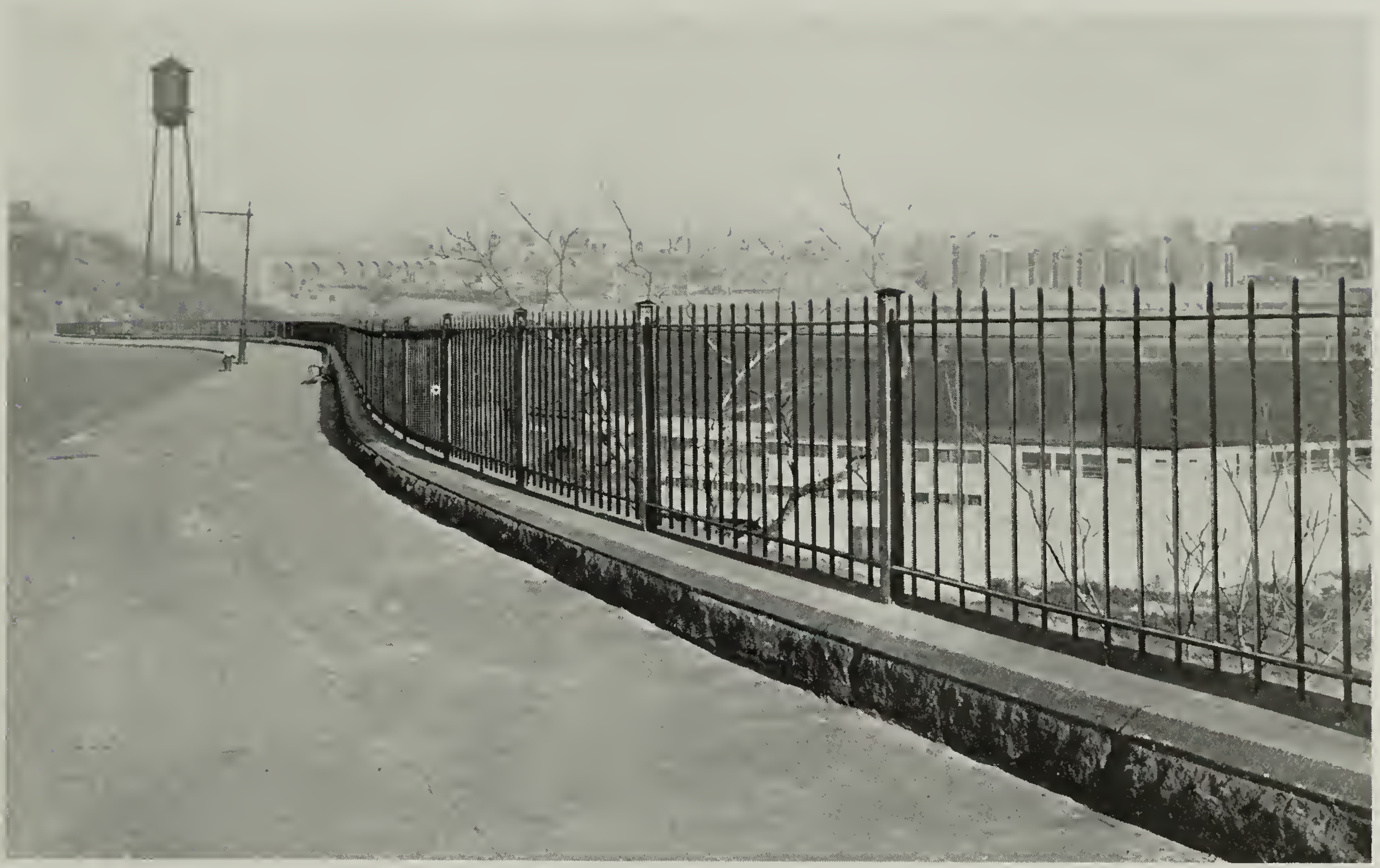




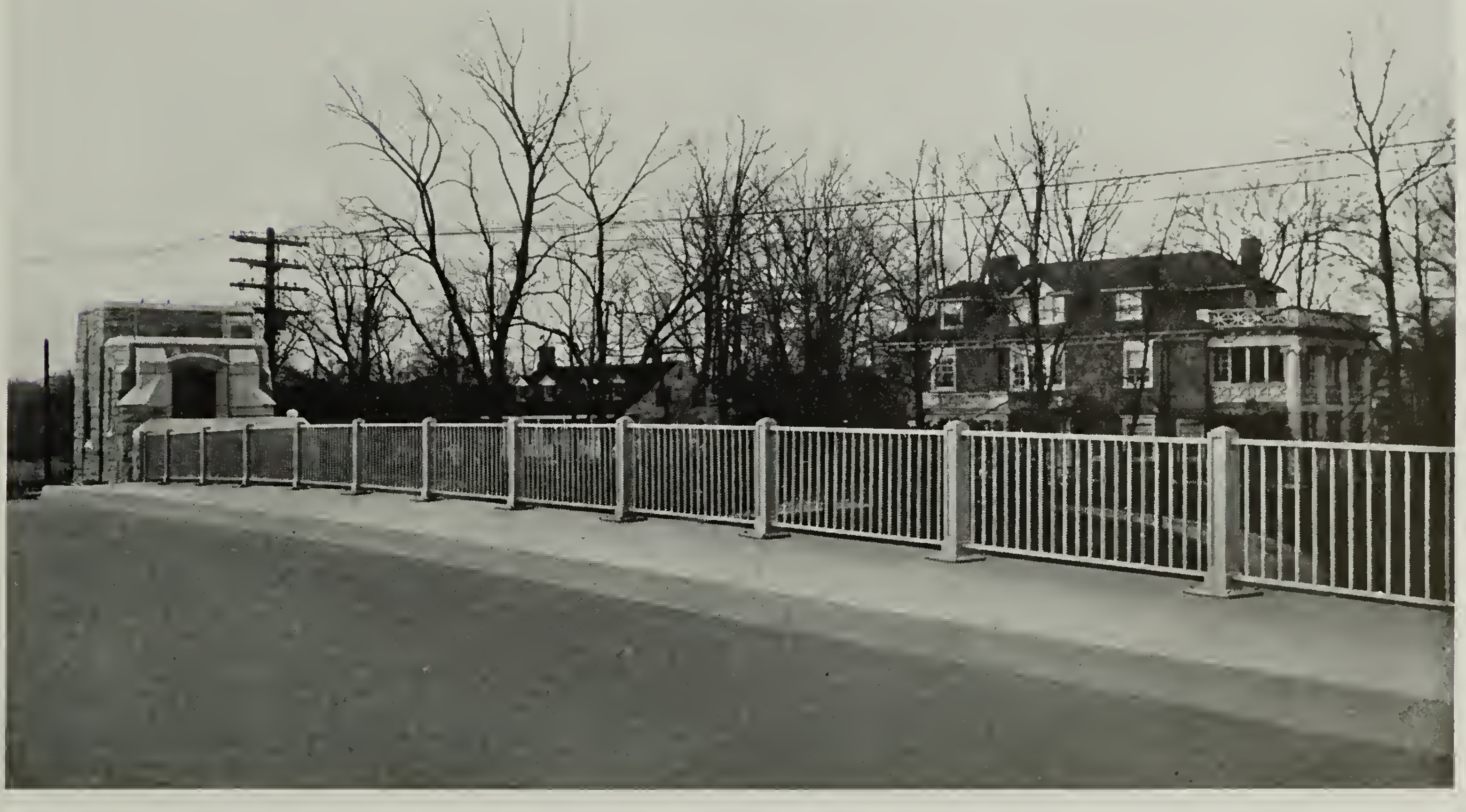
New Madison Square Garden, New York City—15,000 Feet Pipe Railing



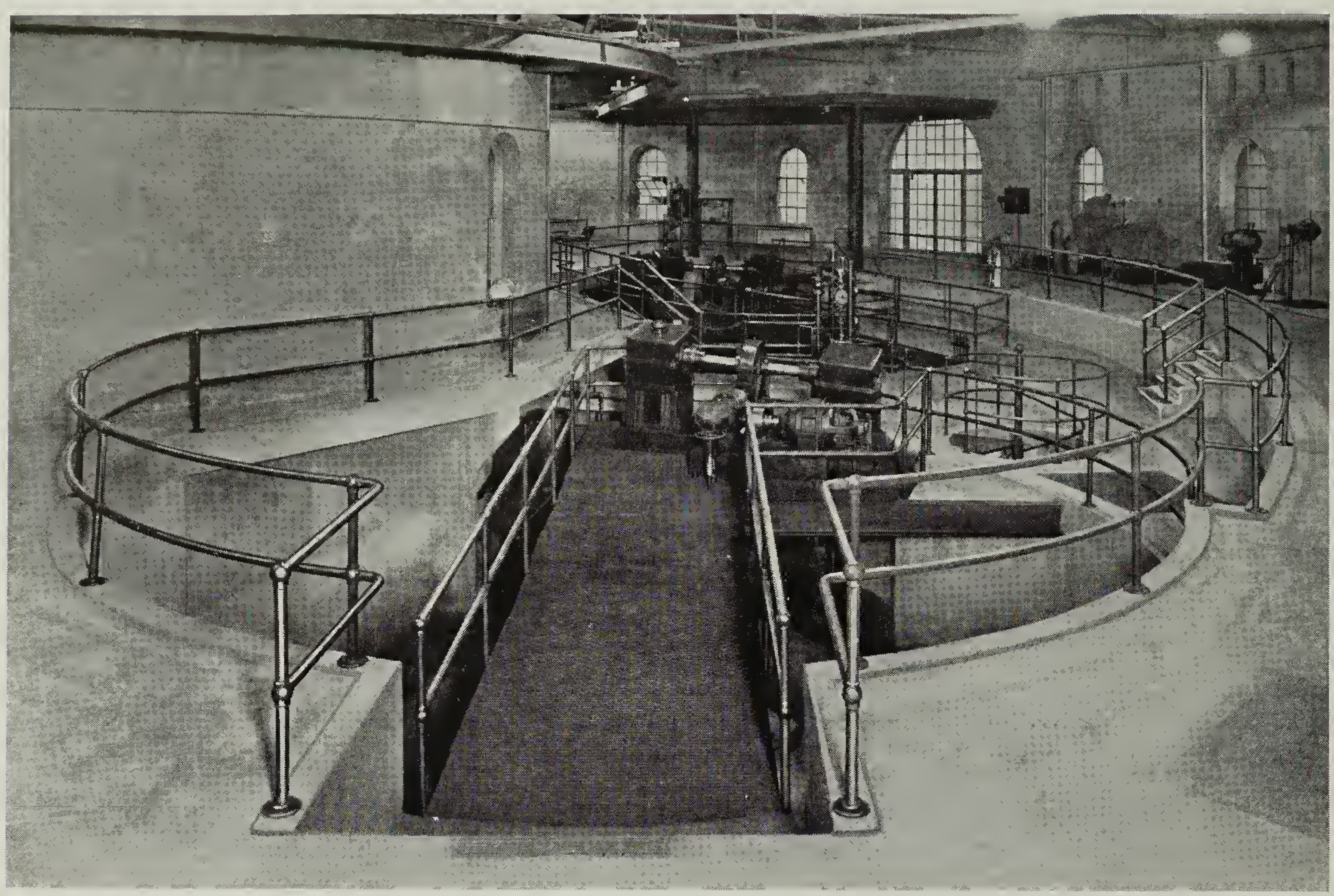
Madison Square Garden, Boston, Mass.—20,000 Feet Pipe Railing



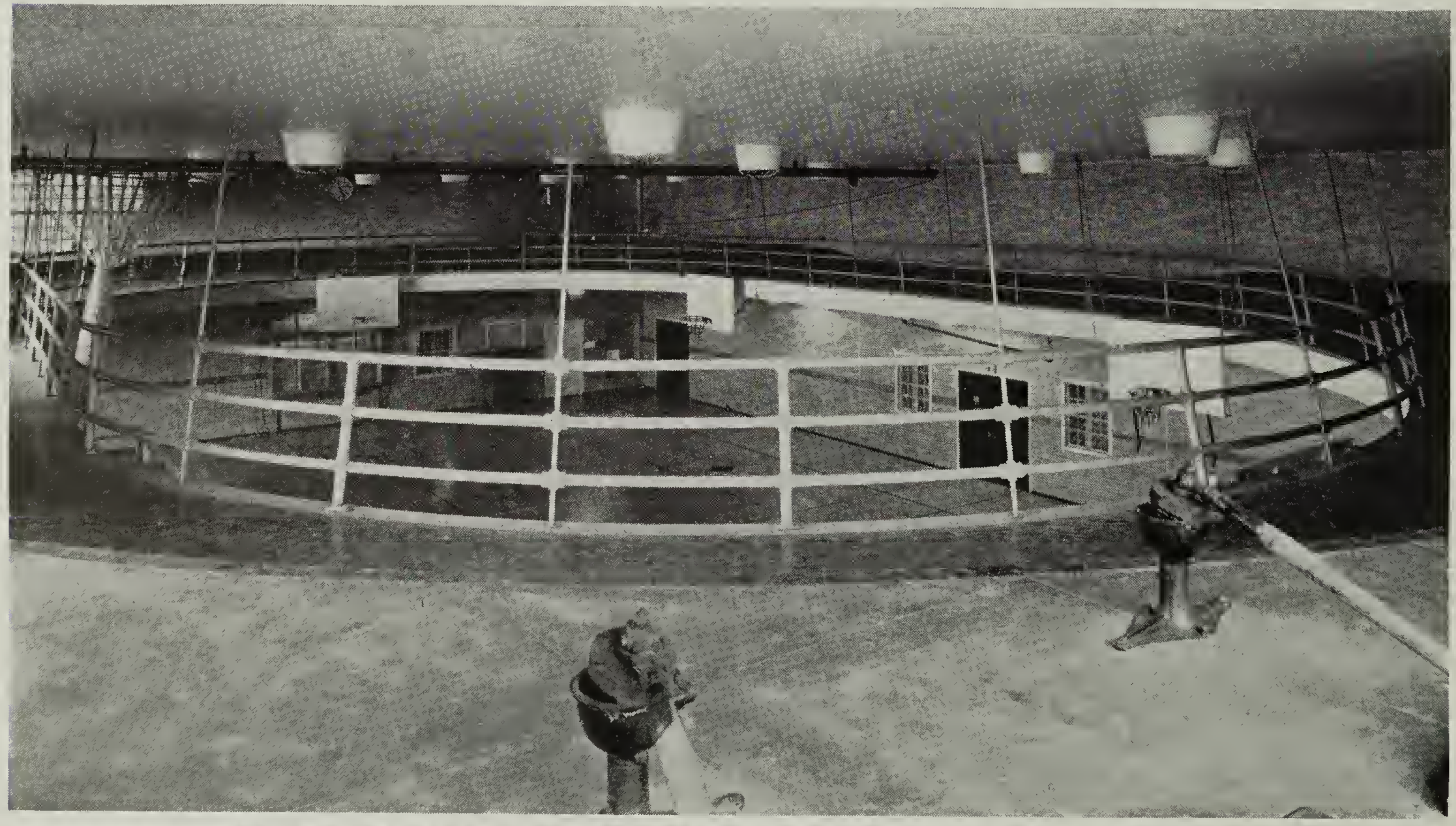
Harlem River Driveway, New York City—Picket Fence



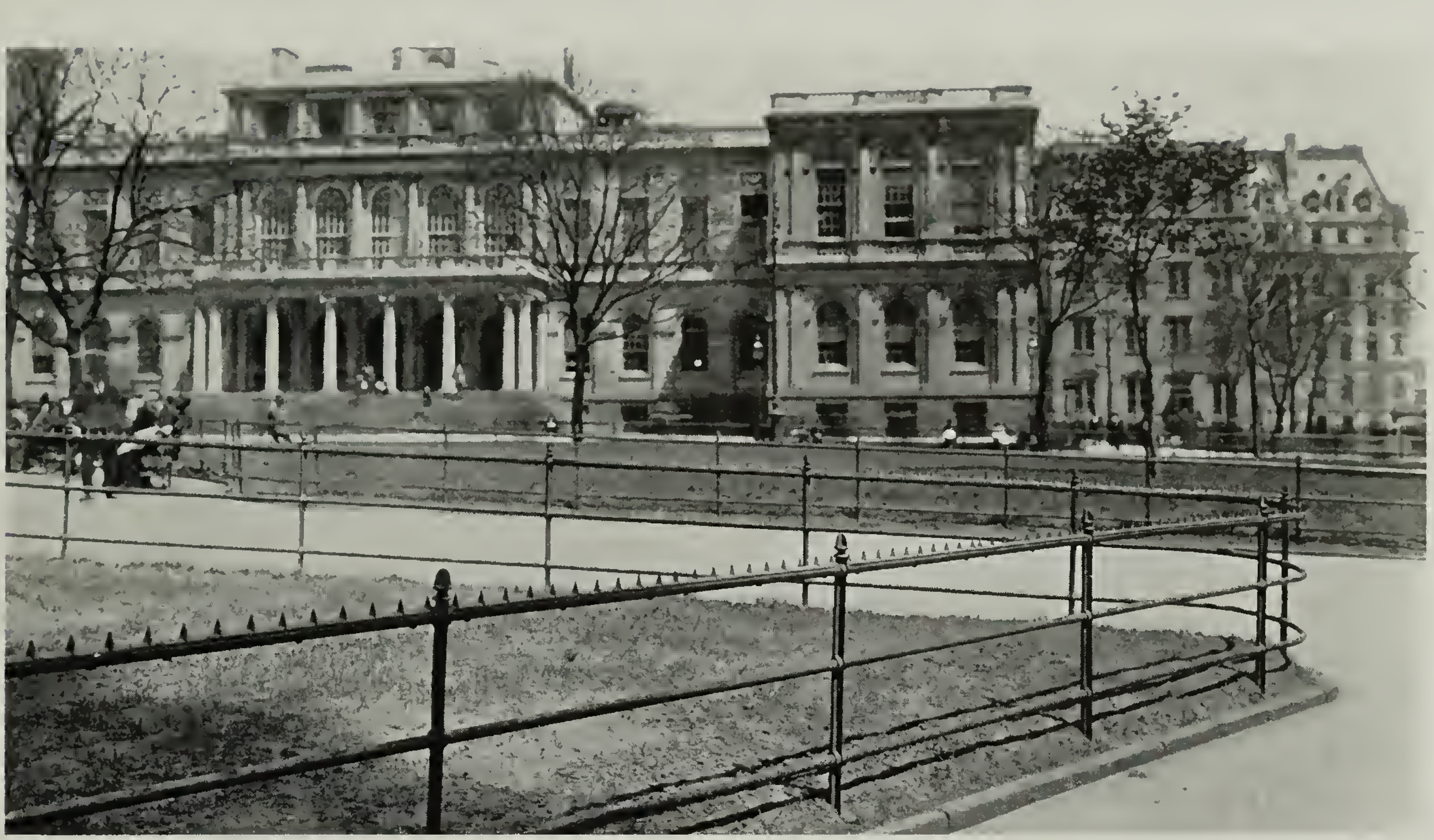
Westchester County Park Bridge, Mt. Vernon, N. Y.—Bridge Railing



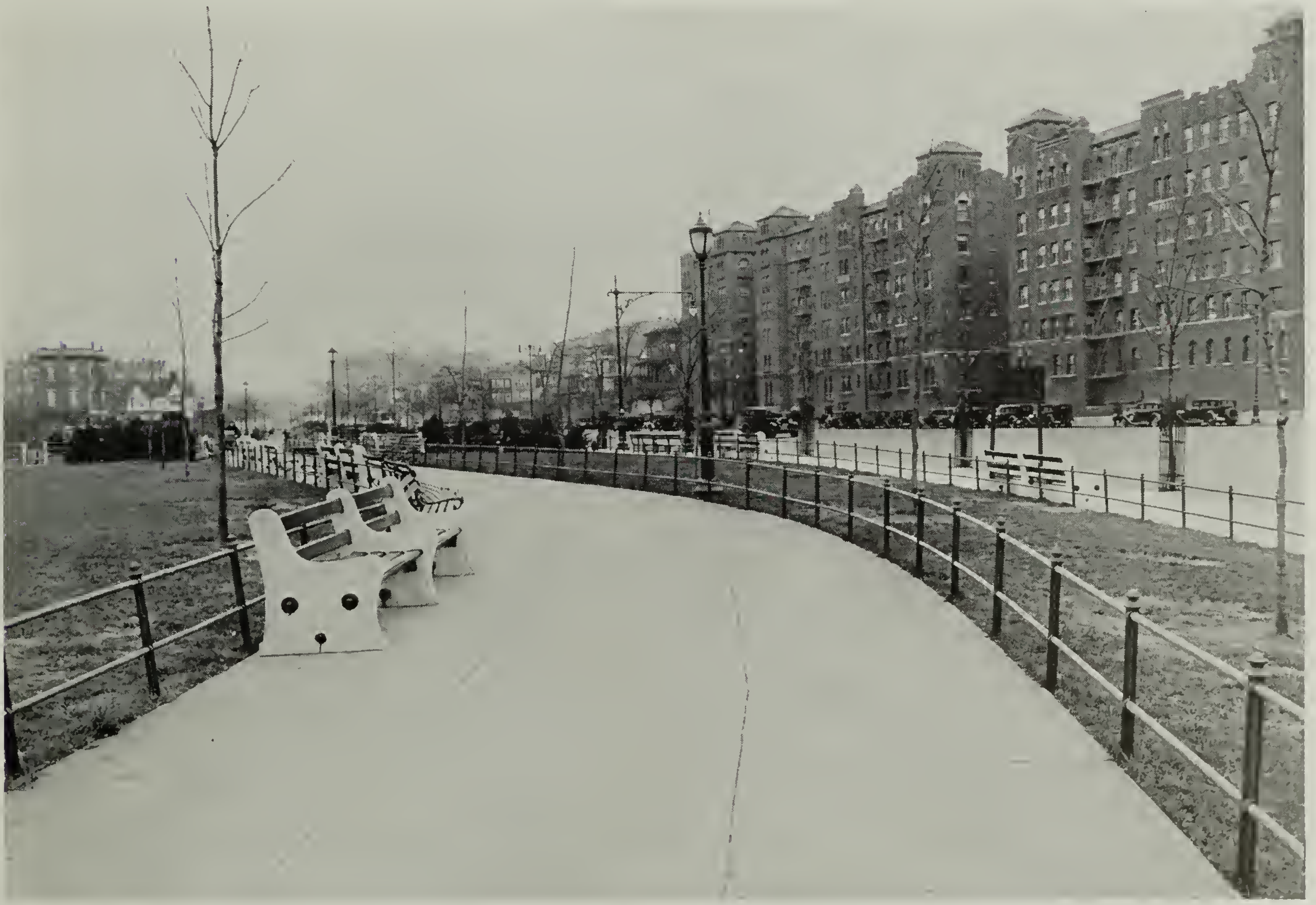
Sewage Disposal Plant, Brooklyn, N. Y.—Pipe Railings, Spiral Stairs, Etc.



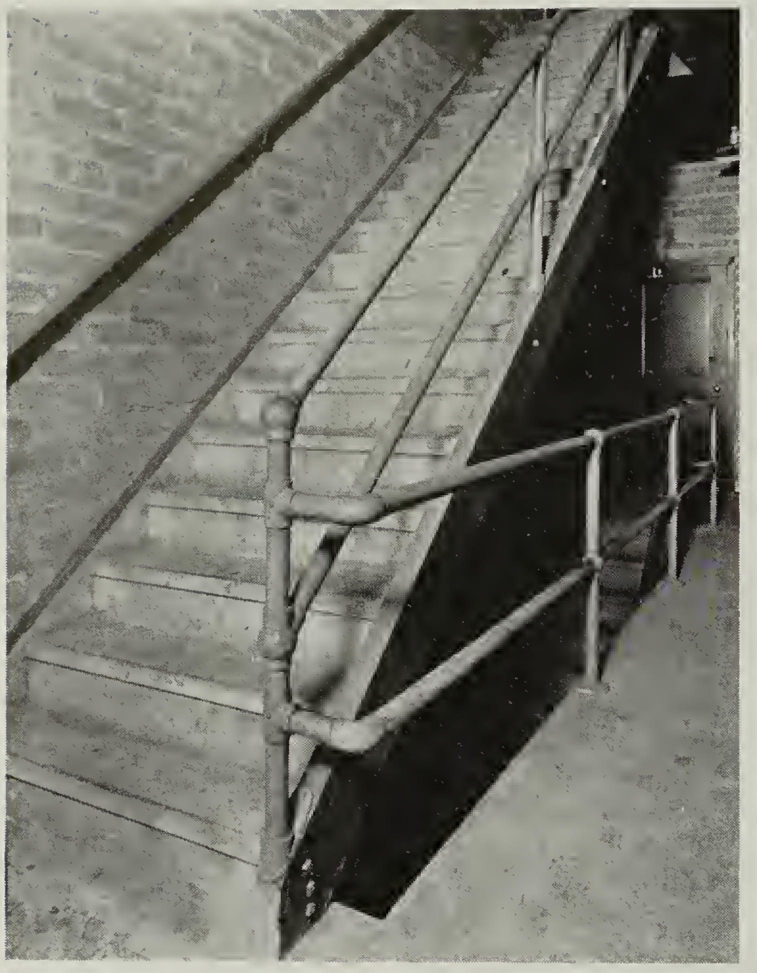
West Side Y. M. C. A., New York City—Running Track Railing



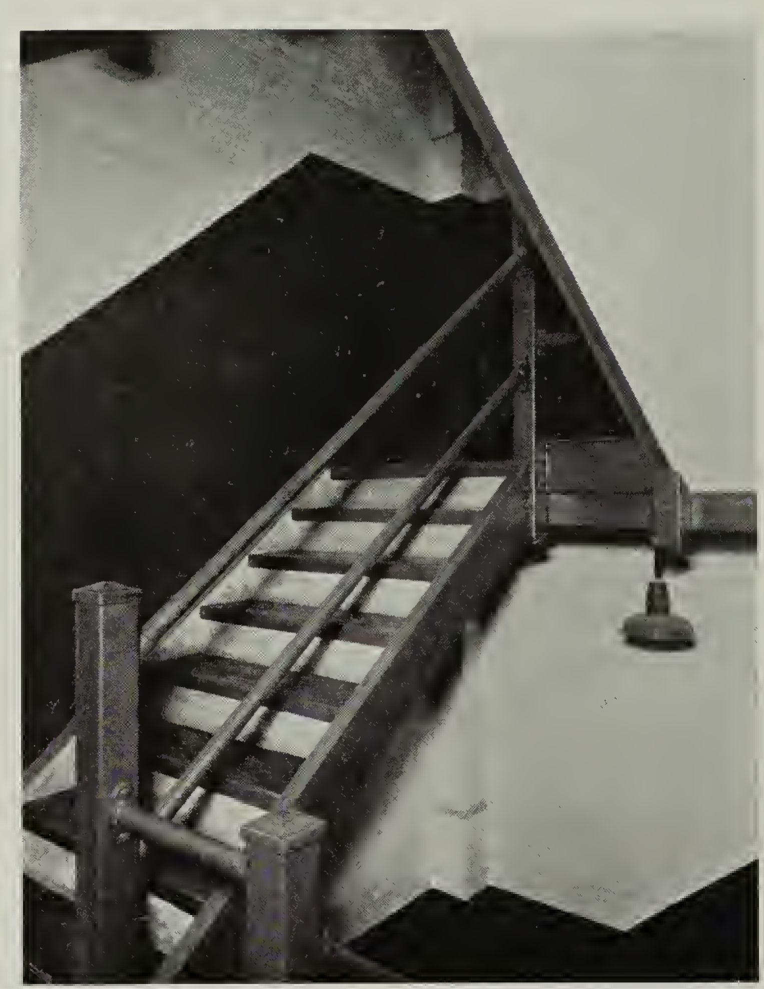
City Hall Park, New York City—Standard Three Line Park Fencing



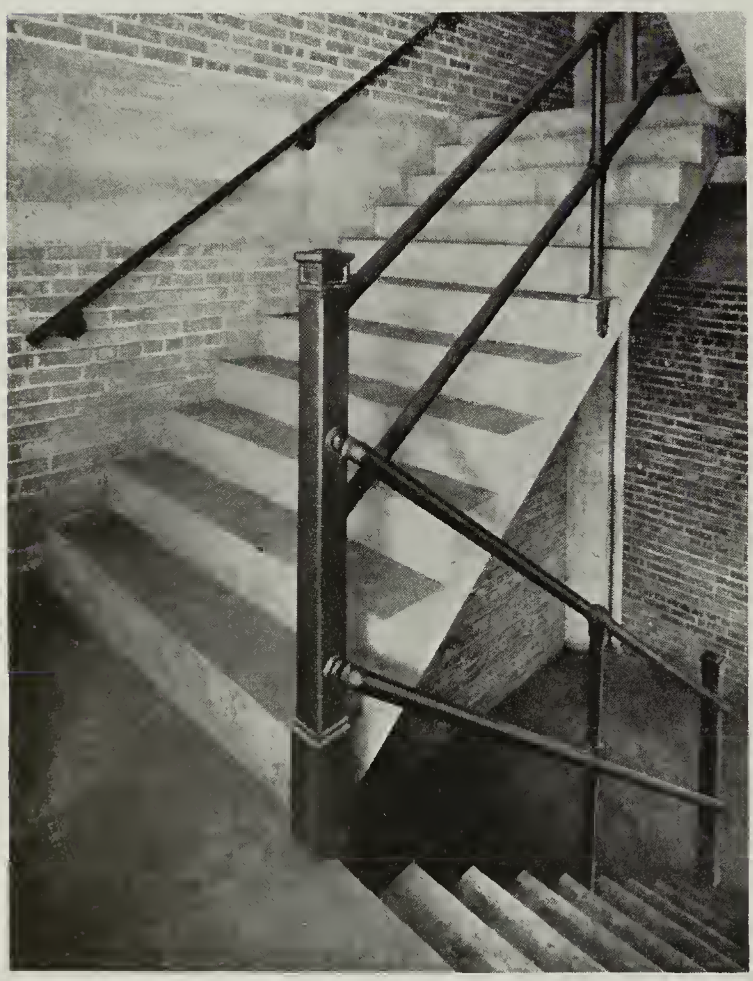
Joyce Kilmer Park, New York City—Standard Two Line Park Fencing



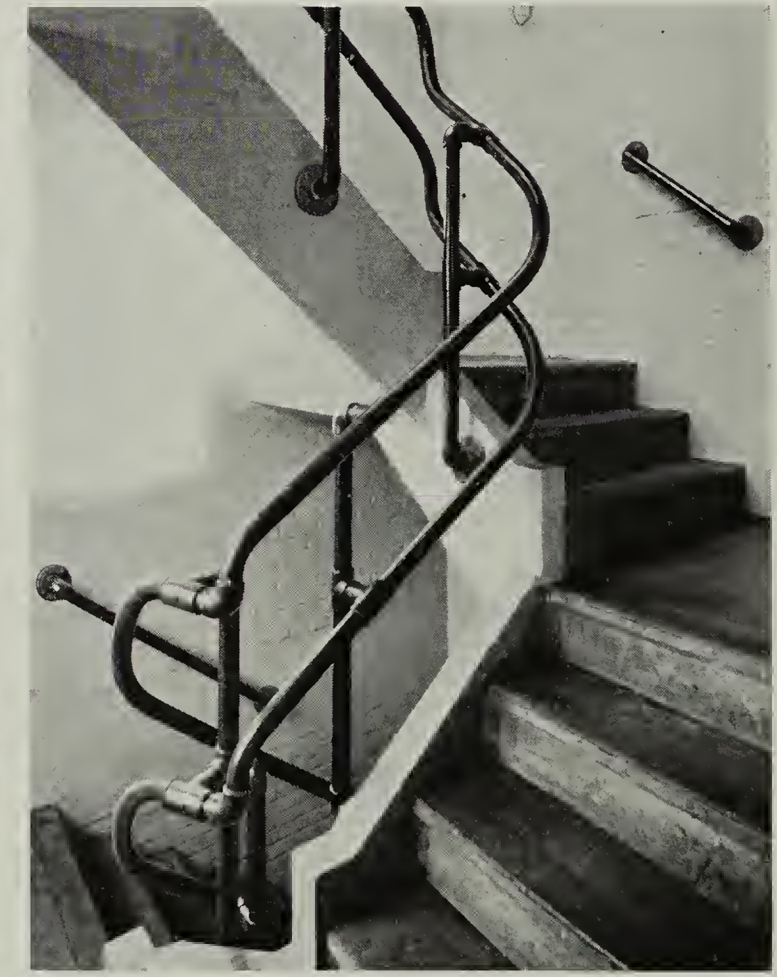
Pipe Rail on Econo Type Stairs



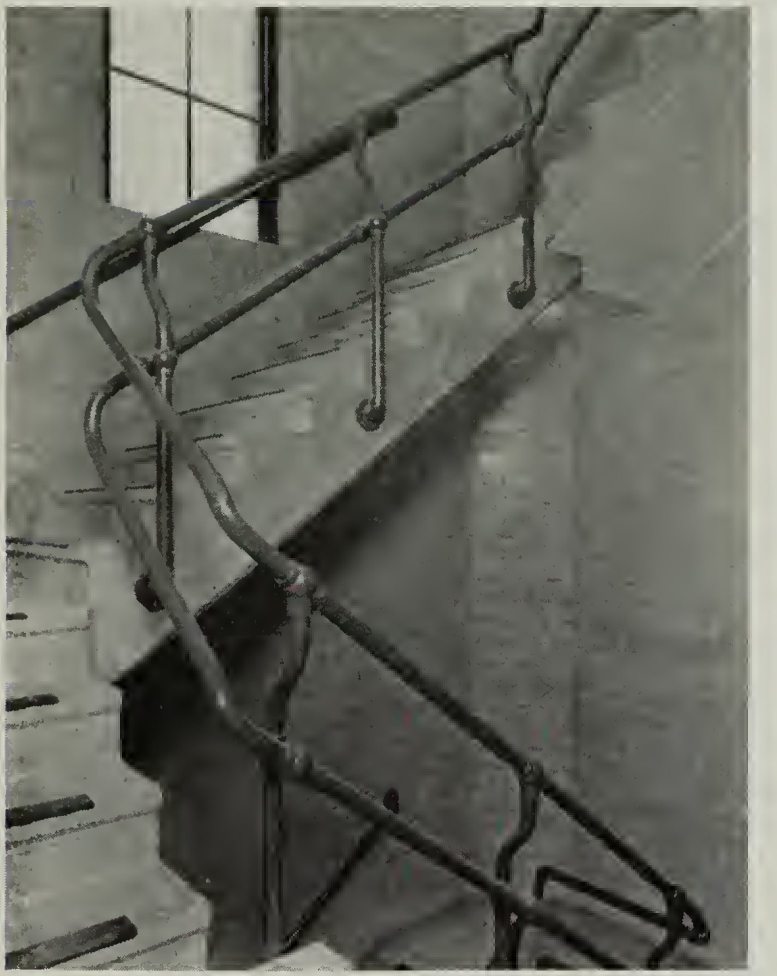
Pipe Rail on Econo Type Stairs



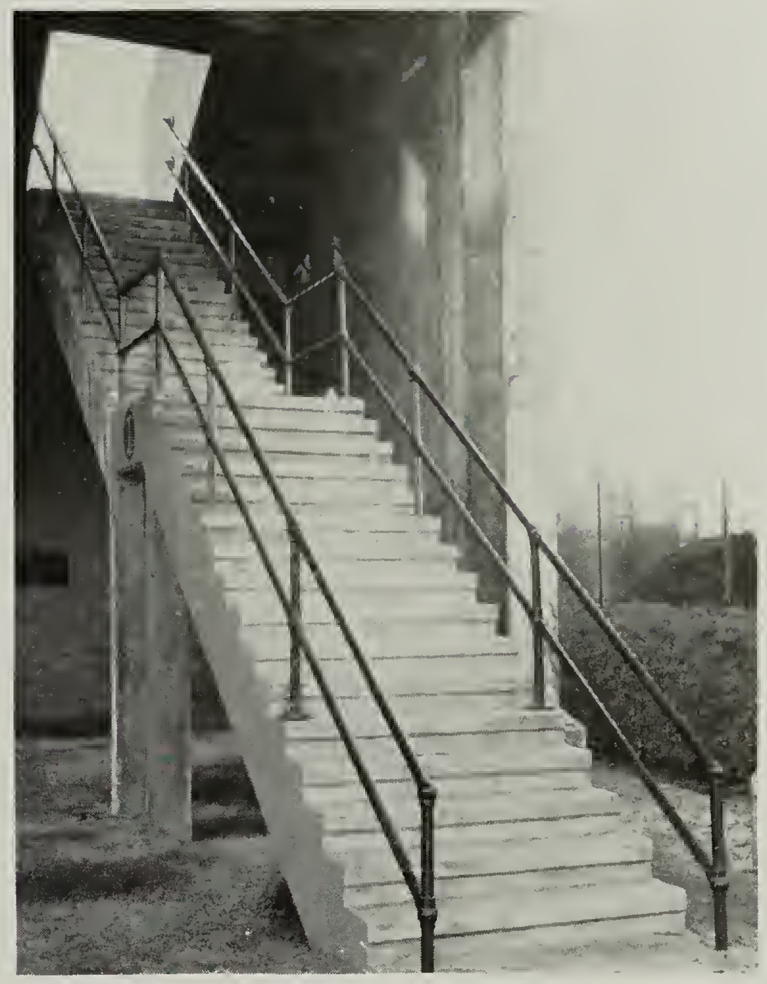
Pipe Rail on Stairs with Cast Iron Newels



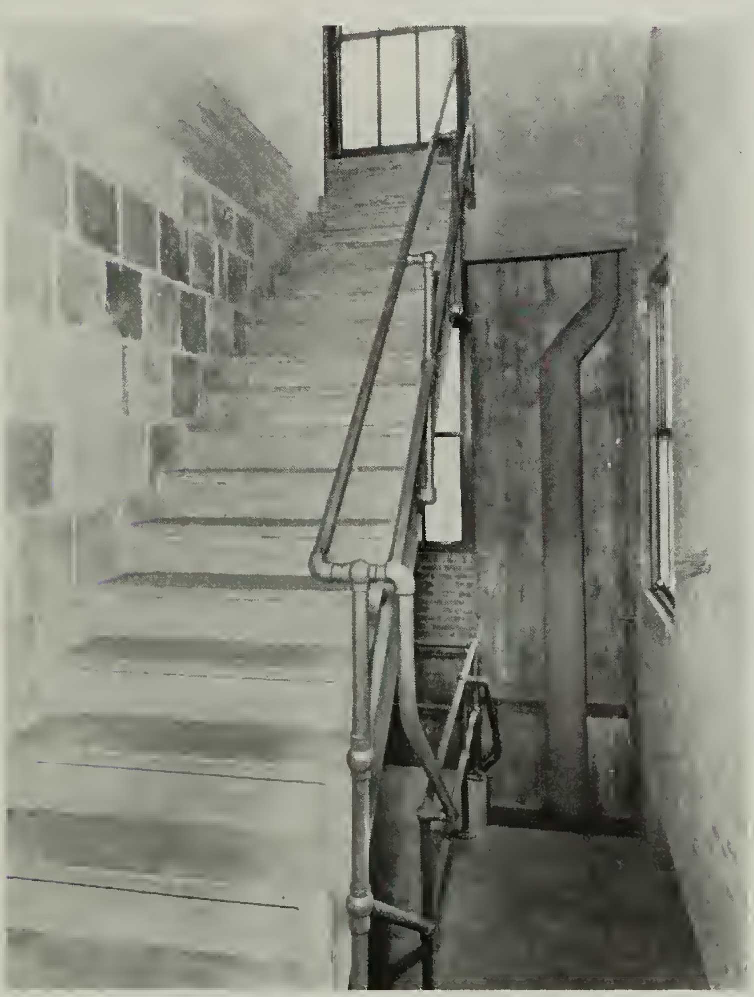
Pipe Rail on Concrete Stairs



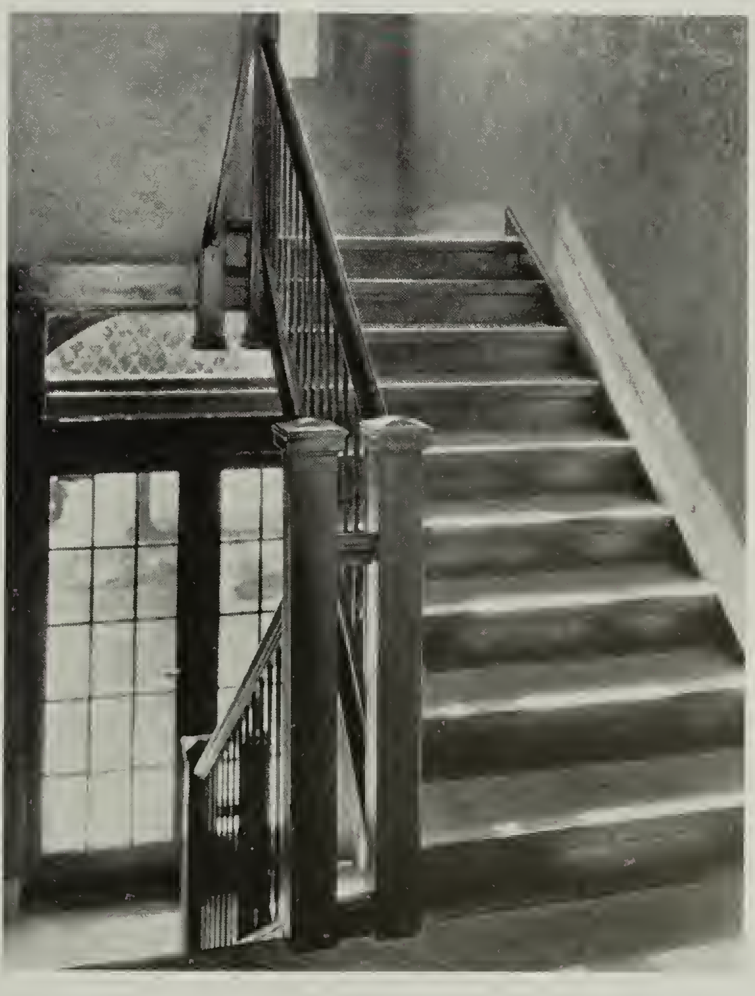
Offset Rail on Concrete Stairs



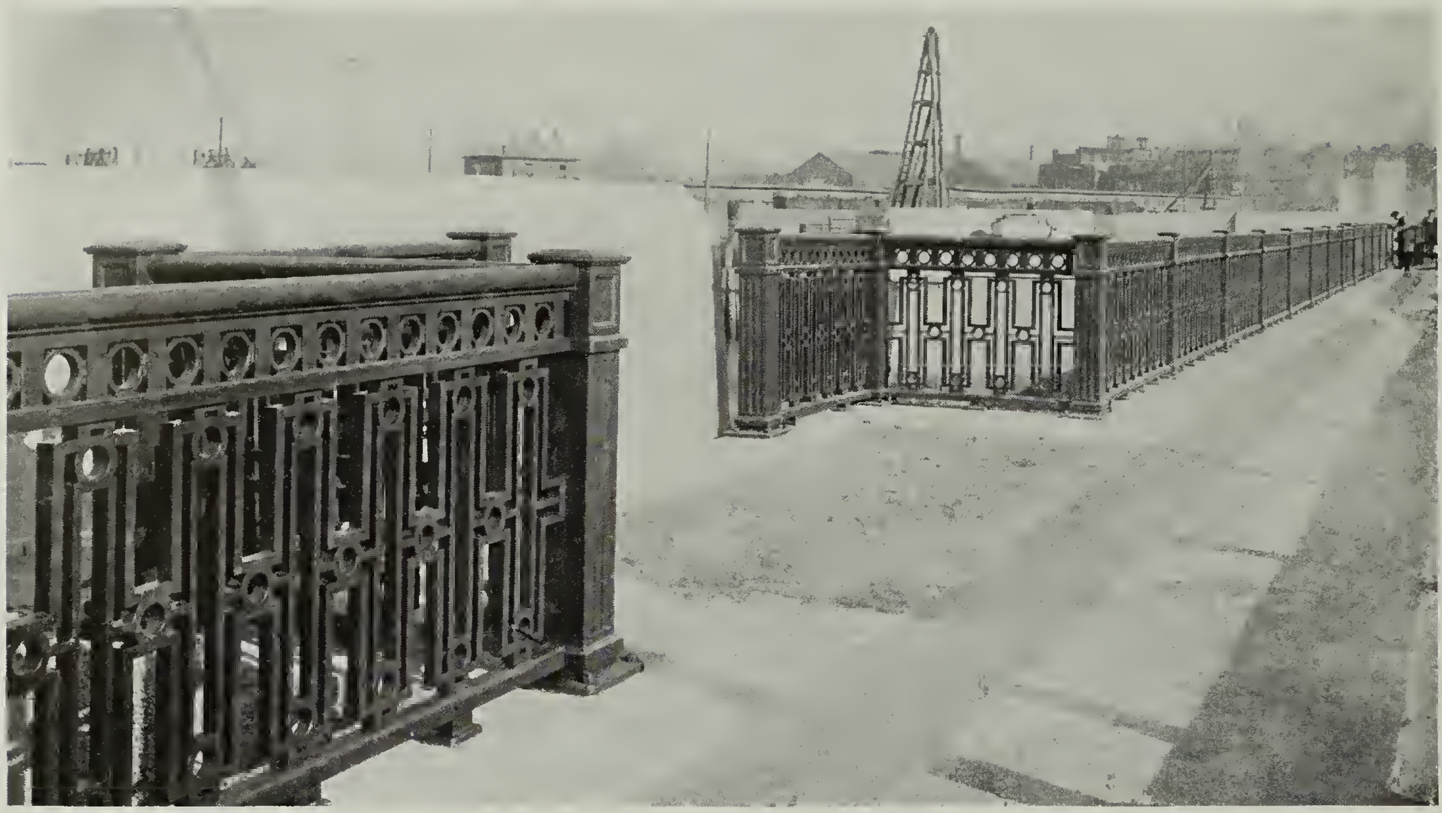
Stadium Exit Stair Rail



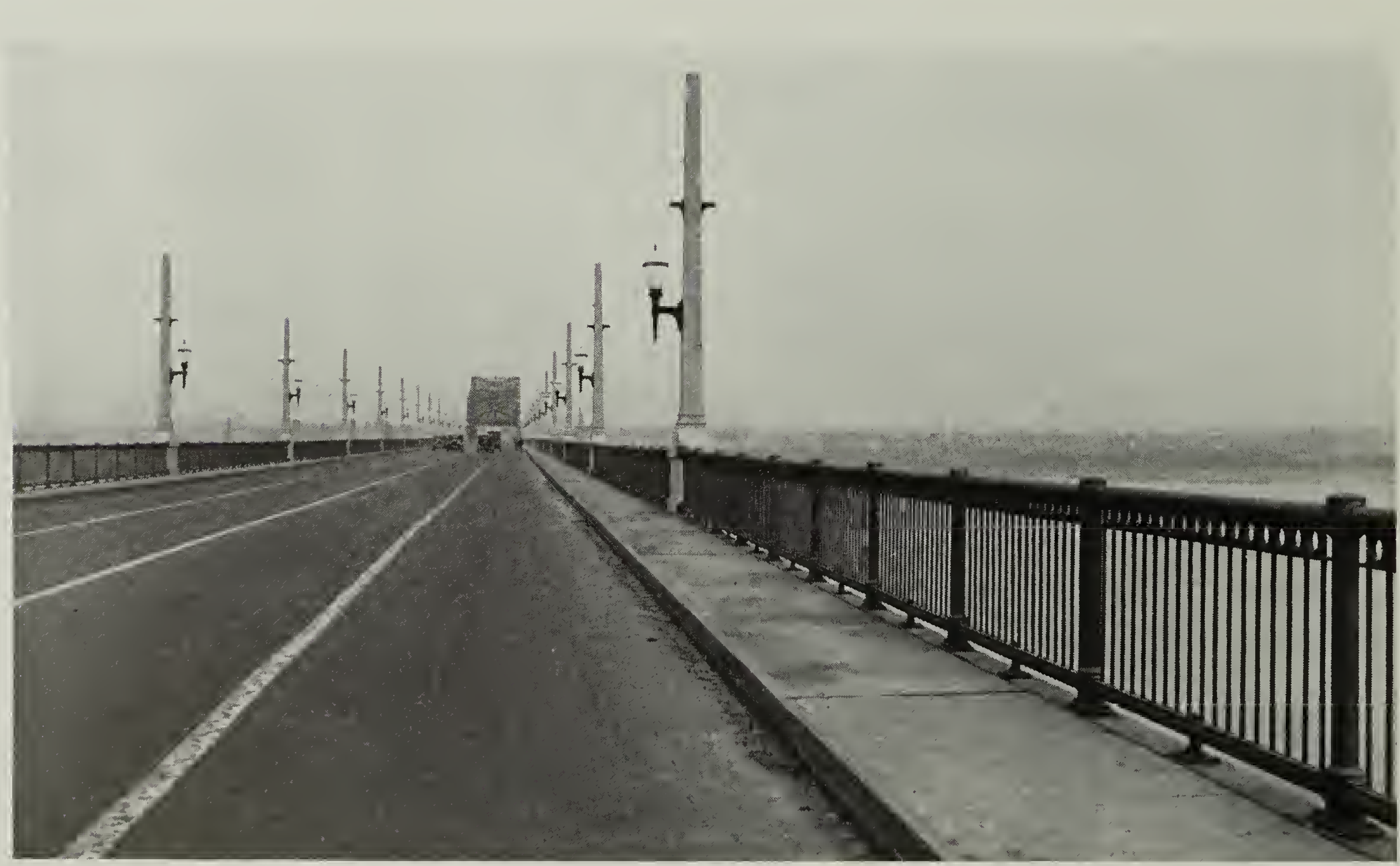
Offset Rail on Concrete Stairs



Wrought Iron Railing on Apartment House Stairs



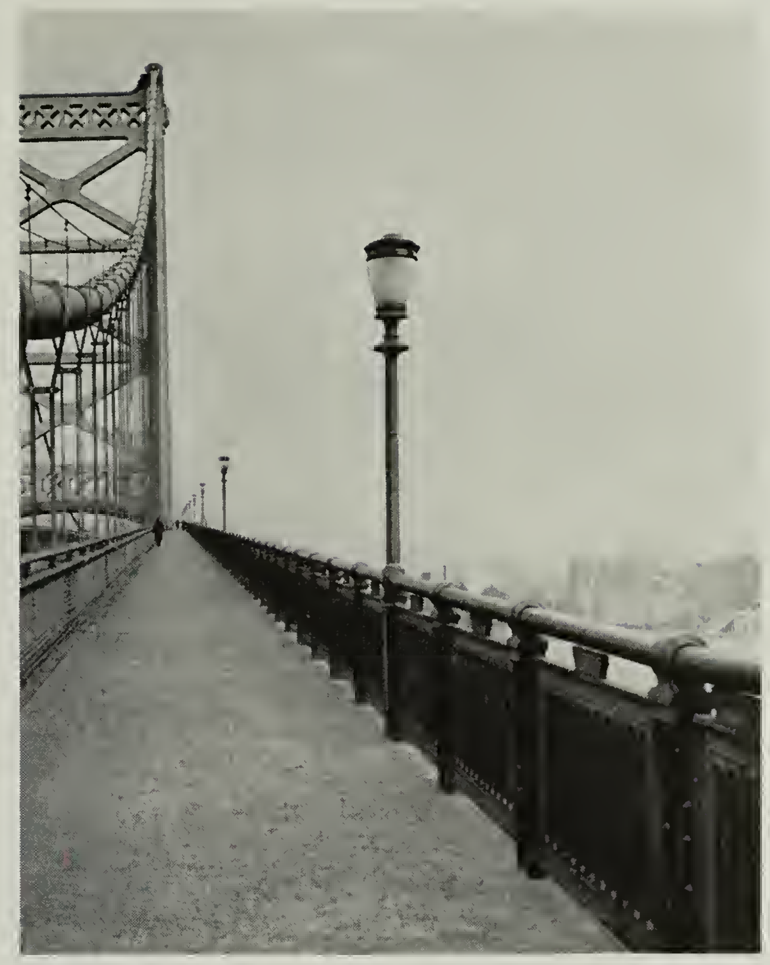
Railing on Charles River Dam, Boston, Mass.

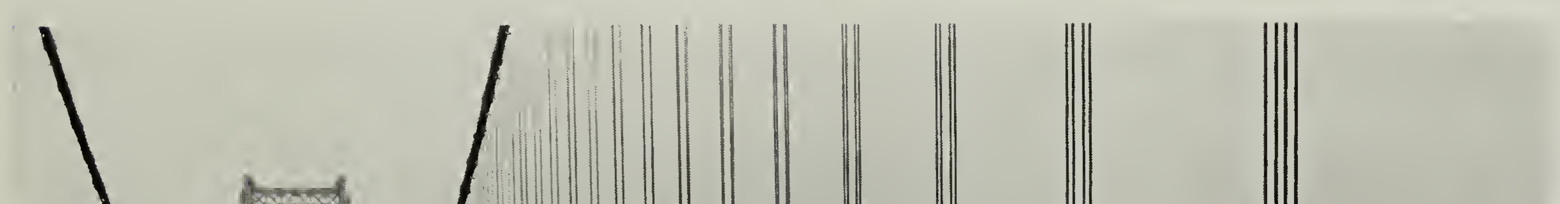


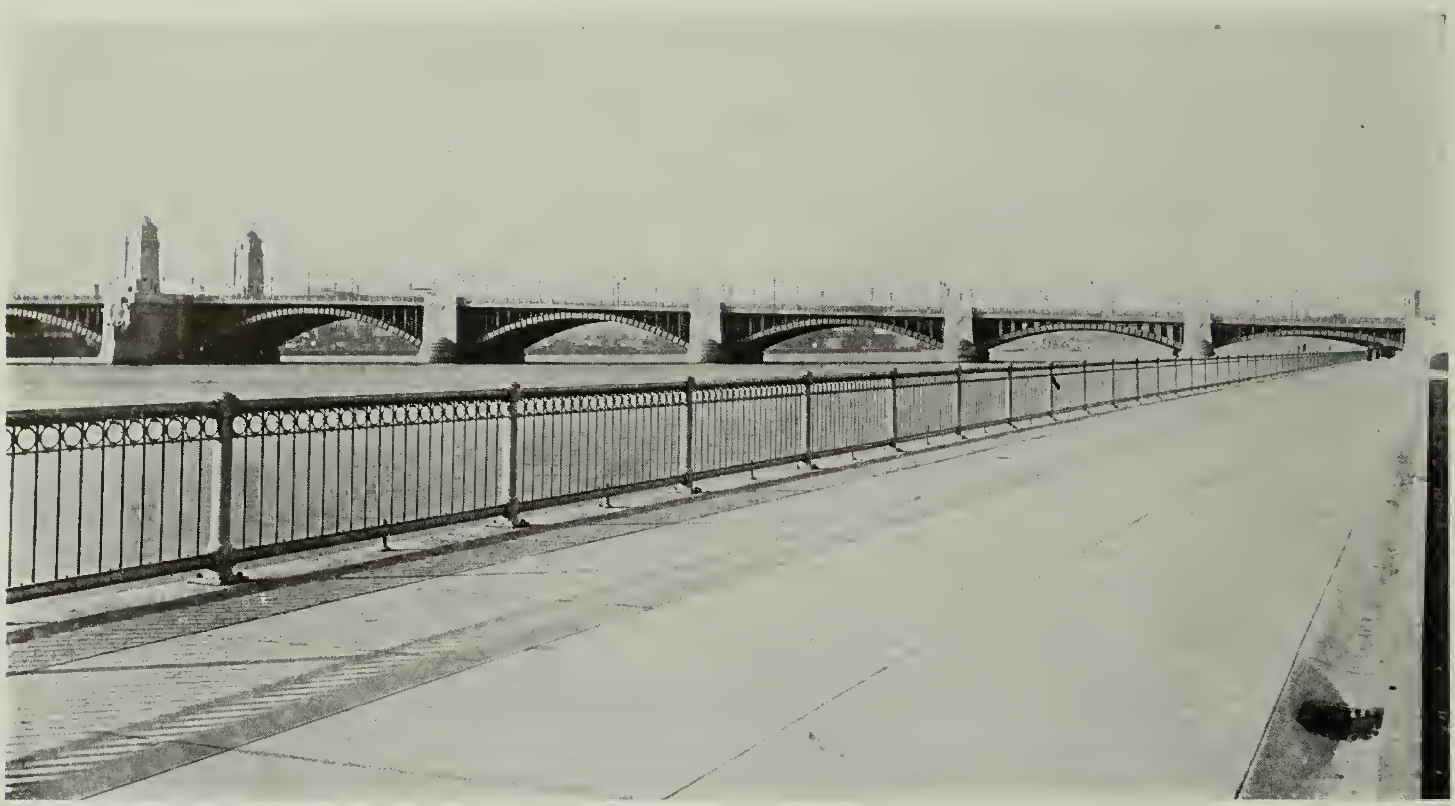
Victory Bridge, Perth Amboy, N. J.—Bridge Railing

DELAWARE RIVER BRIDGE PHILADELPHIA, PA., AND CAMDEN, N. J.

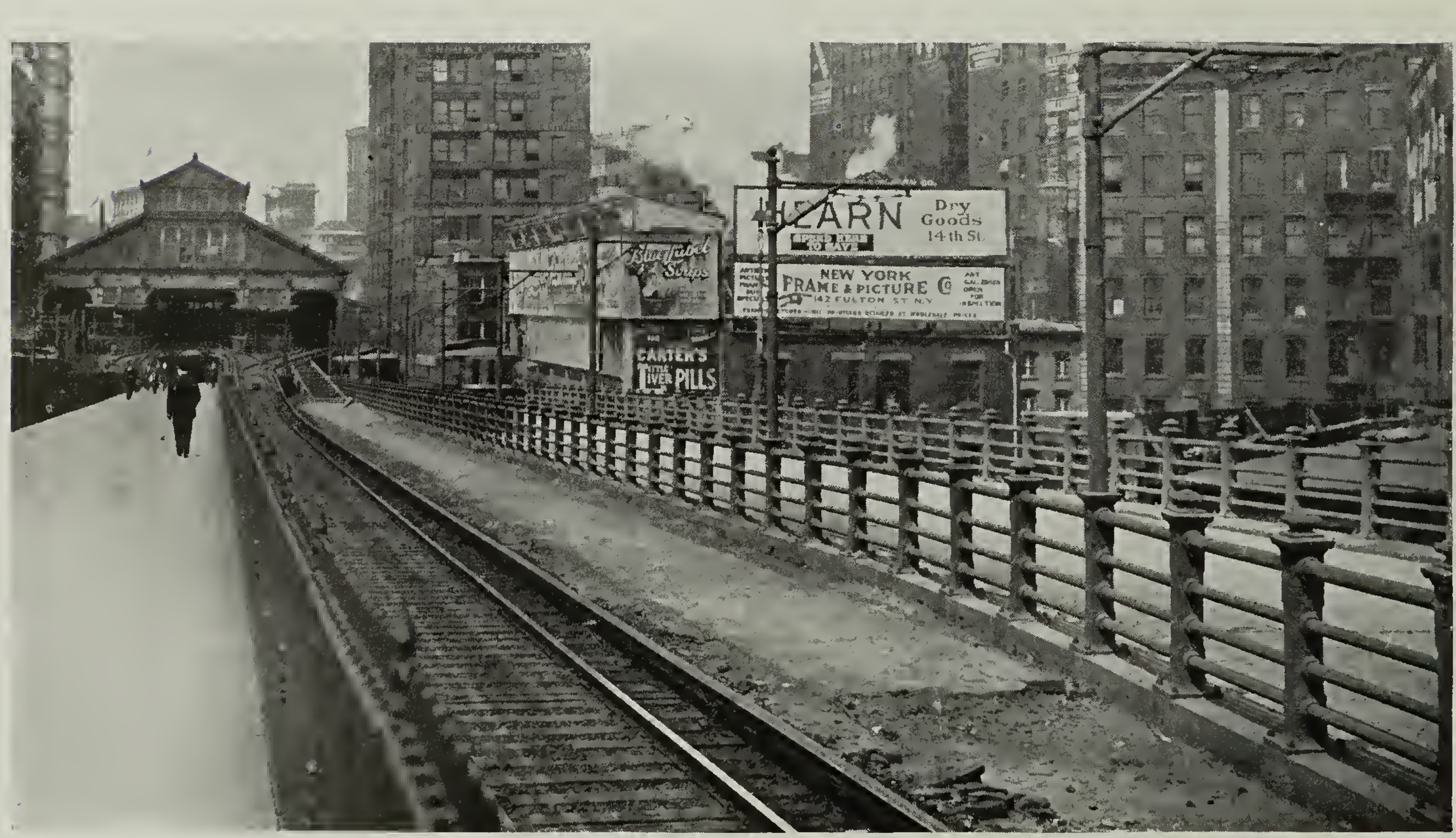
WE furnished and erected on this bridge 36,800 lineal feet of Bridge Railing; 12,900 lineal feet of Pipe Railing; 80,000 square feet of Grating; 330 Lamp Posts and Brackets; and in addition to the above, the Traffic Towers, Crossover Walkways and considerable other miscellaneous work making a total of over 2,000 tons of ornamental metal work.





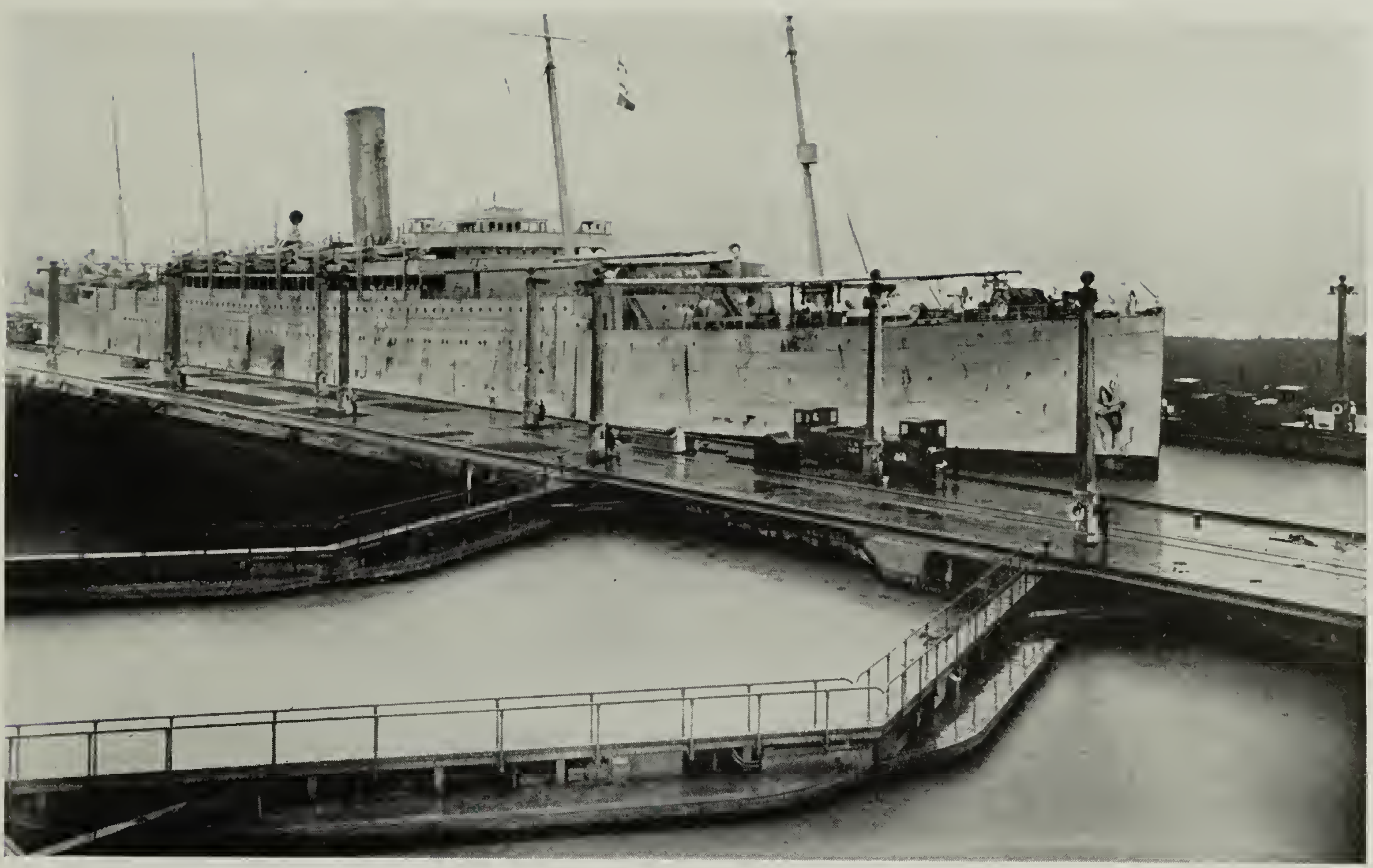


Railing on Charles River Embankment, Boston, Mass.

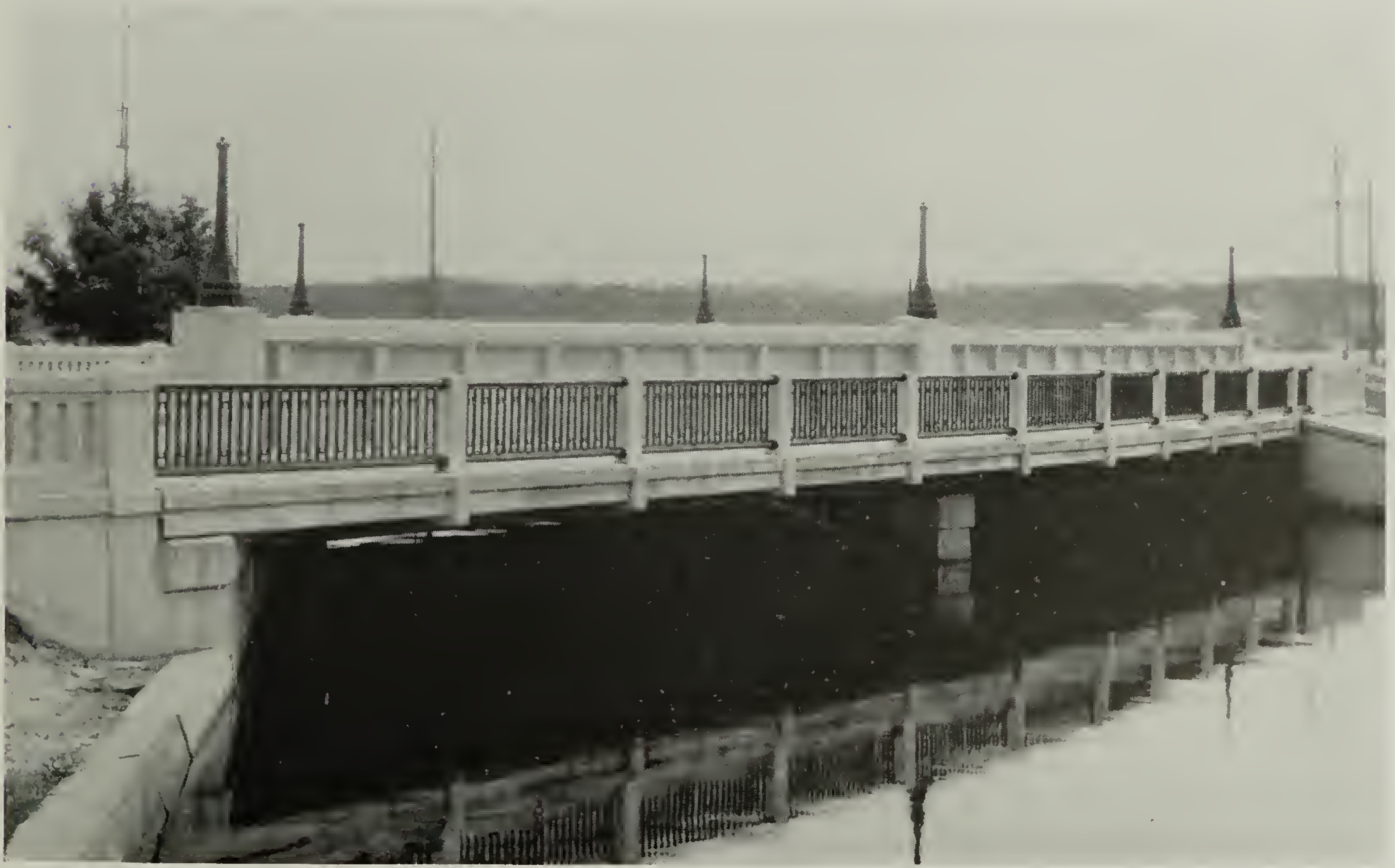


HEARN Dry Goods 14th St.
NEW YORK FRAME & PICTURE Co 142 FULTON ST. N.Y.
Blue Label Soups
CARTER'S LITTLE LIVER PILLS

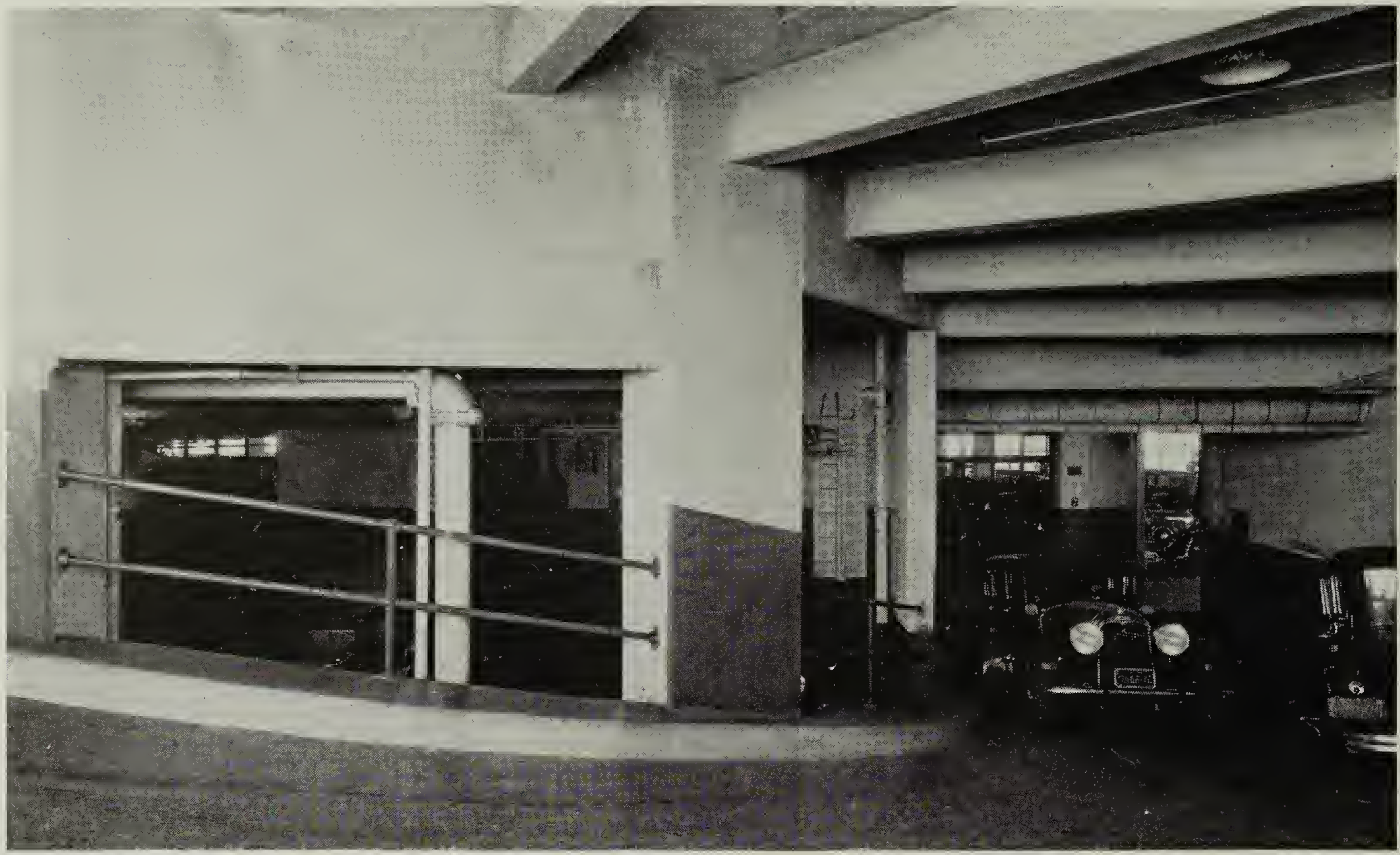
Manhattan Approach, Brooklyn Bridge, New York City



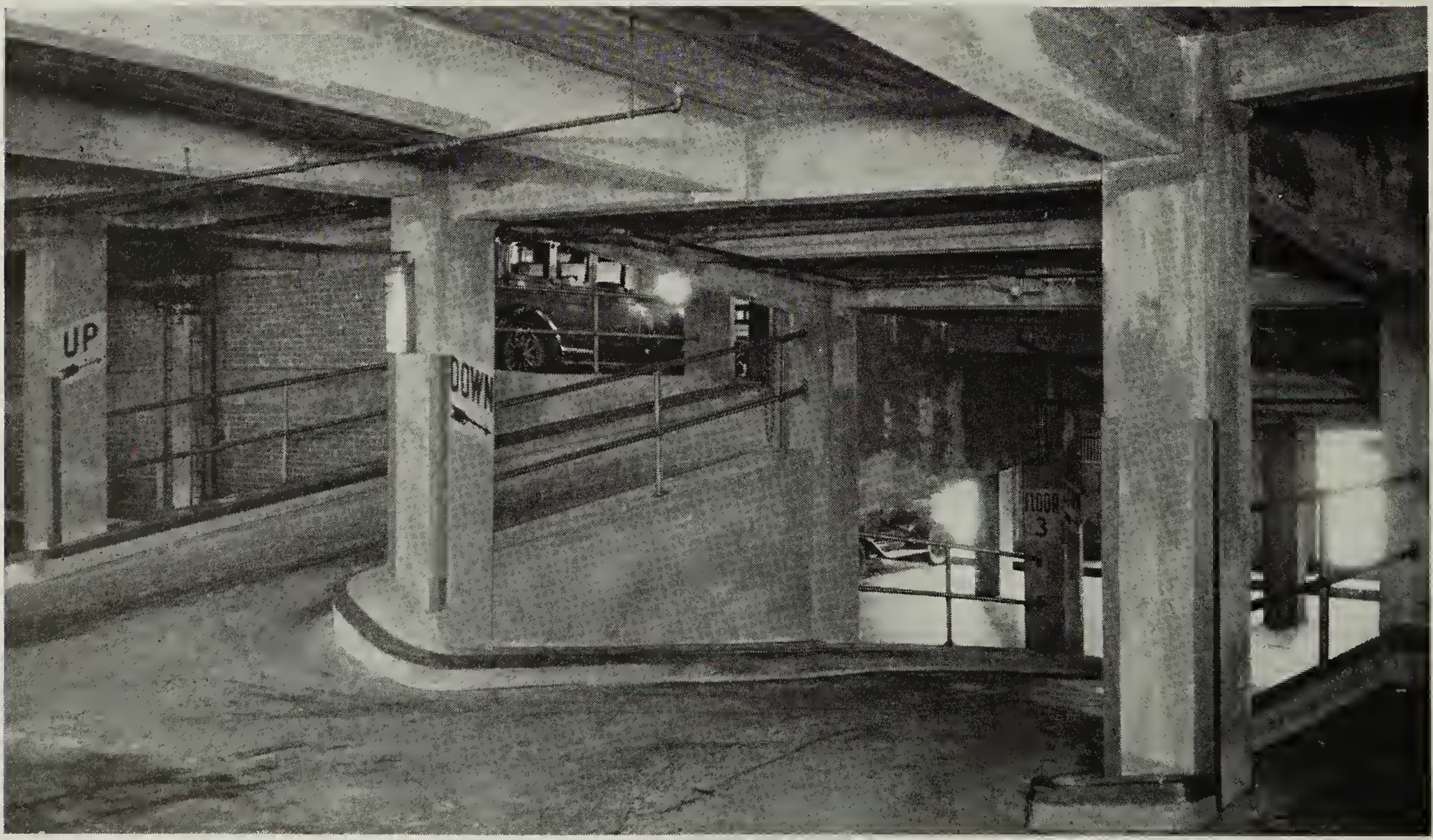
Lock Gates, Panama Canal—Collapsible Pipe Railing



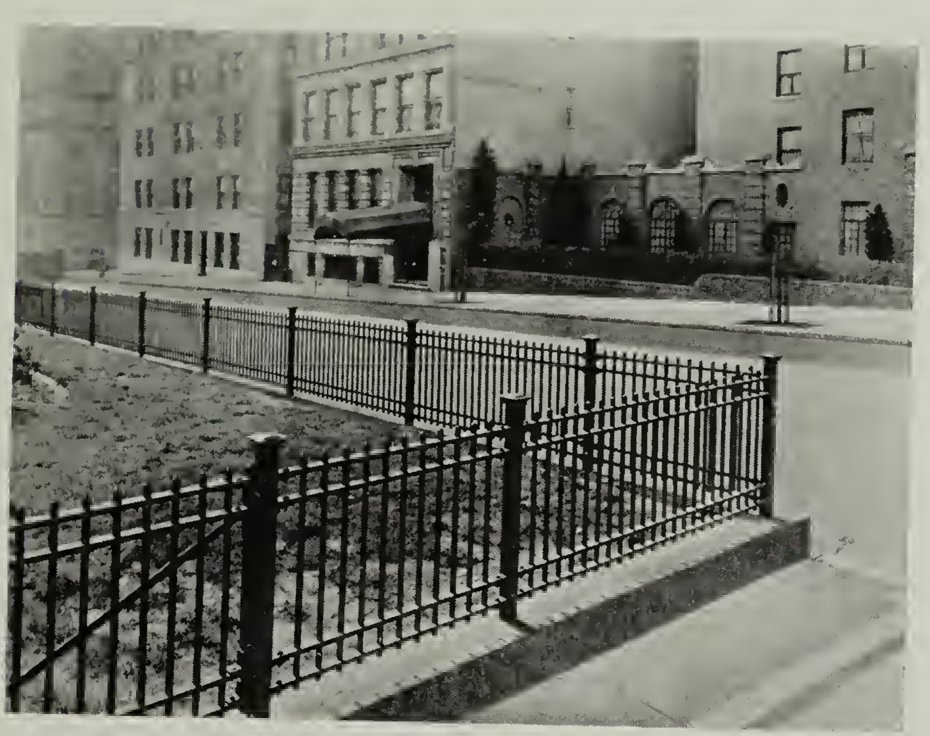
New Jersey State Highway—Standard Bridge Railing



Pipe Railings in Ramp Garages

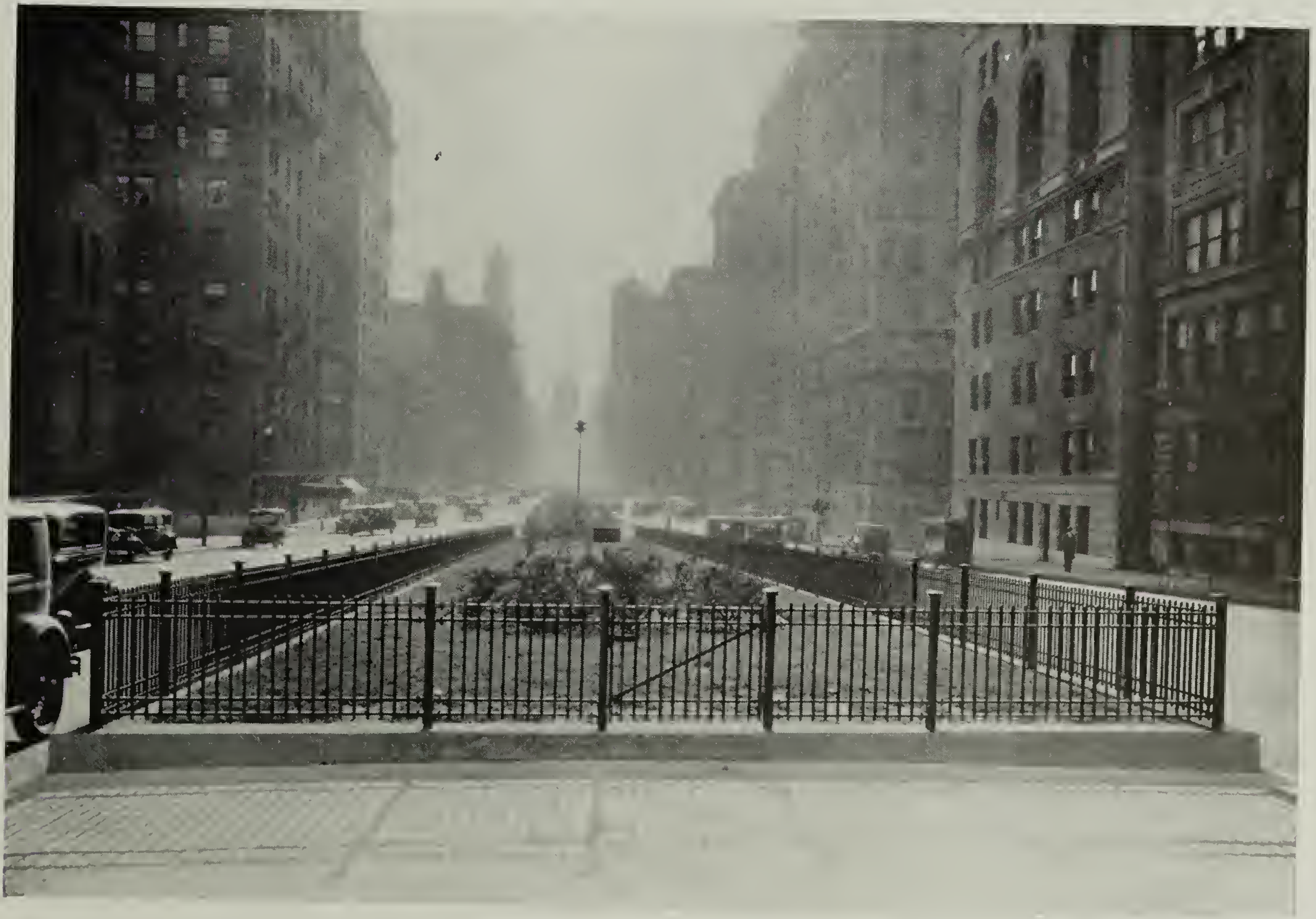


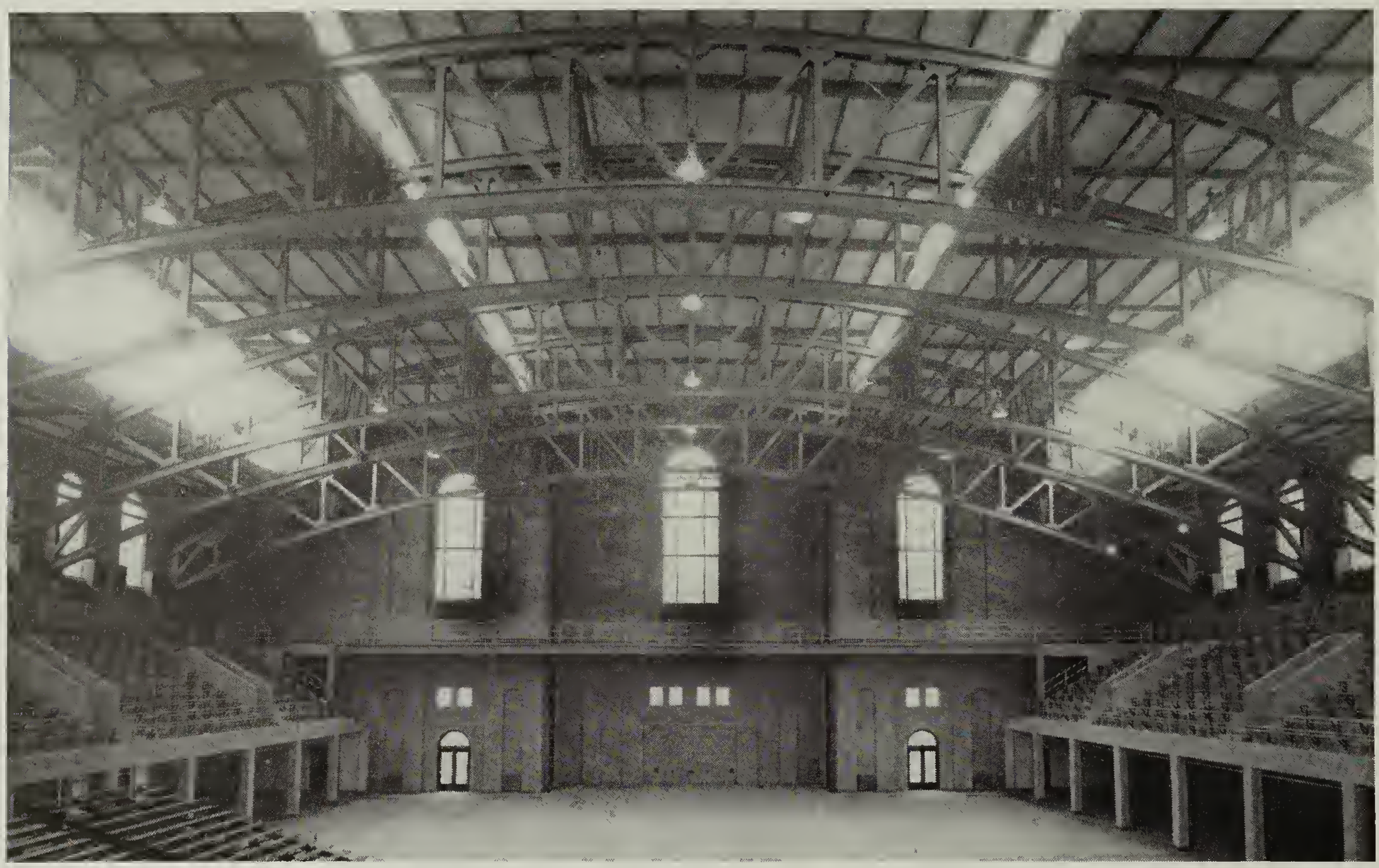
Pipe Railings in Ramp Garages



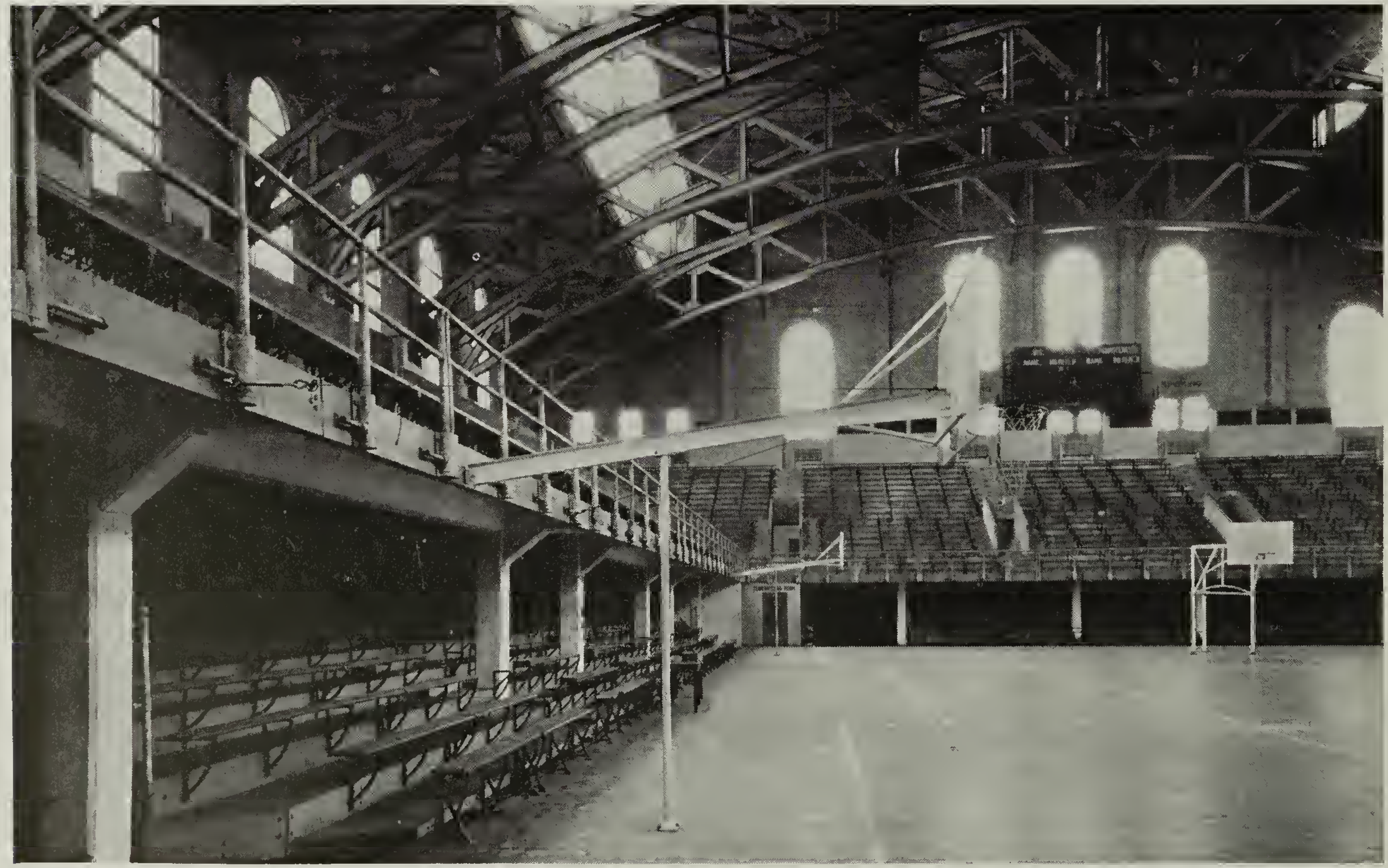
PARK AVENUE NEW YORK CITY

PICKET fence—welded type, around park plots from Thirty-fourth Street to Eighty-sixth Street.

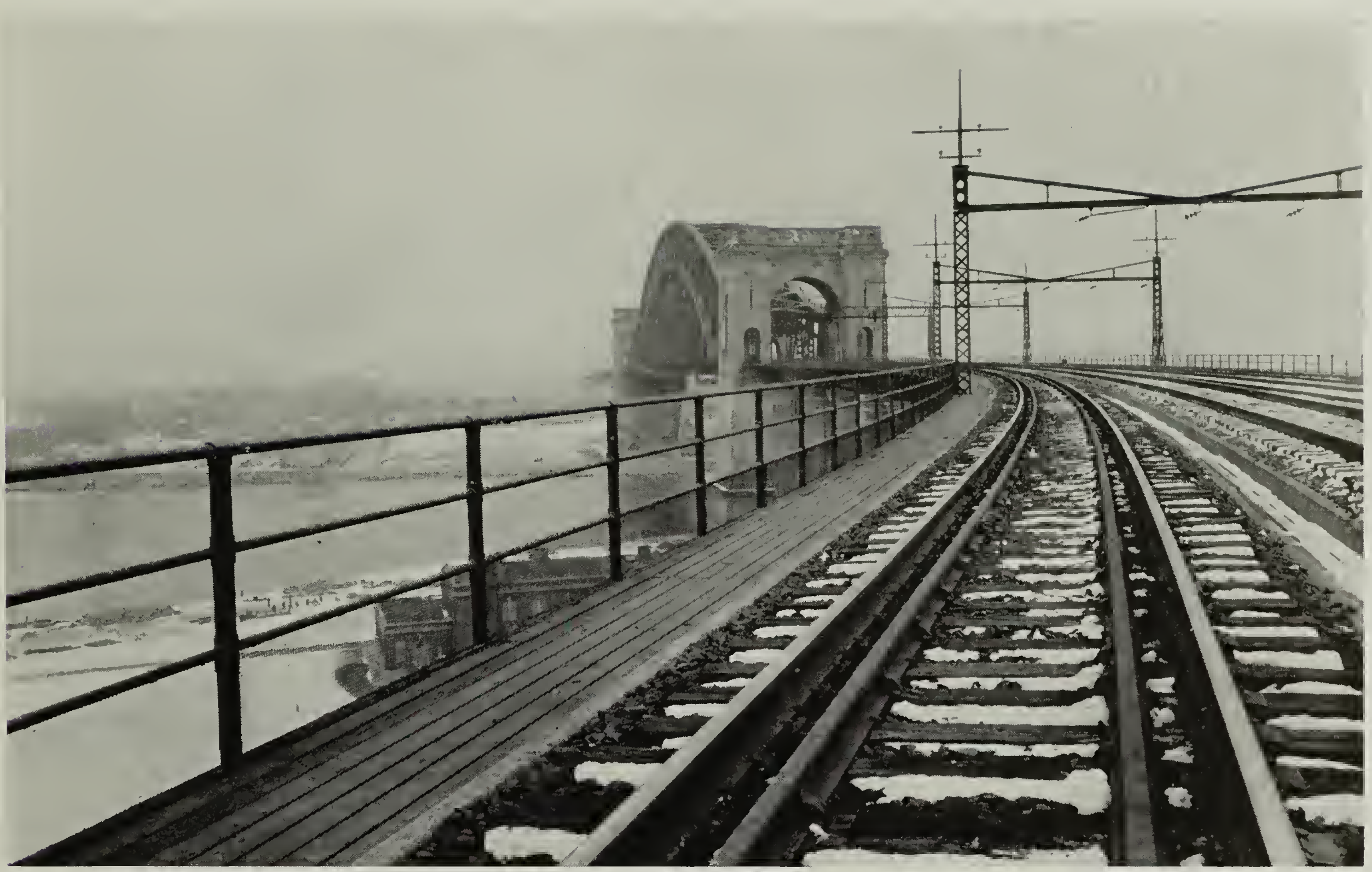




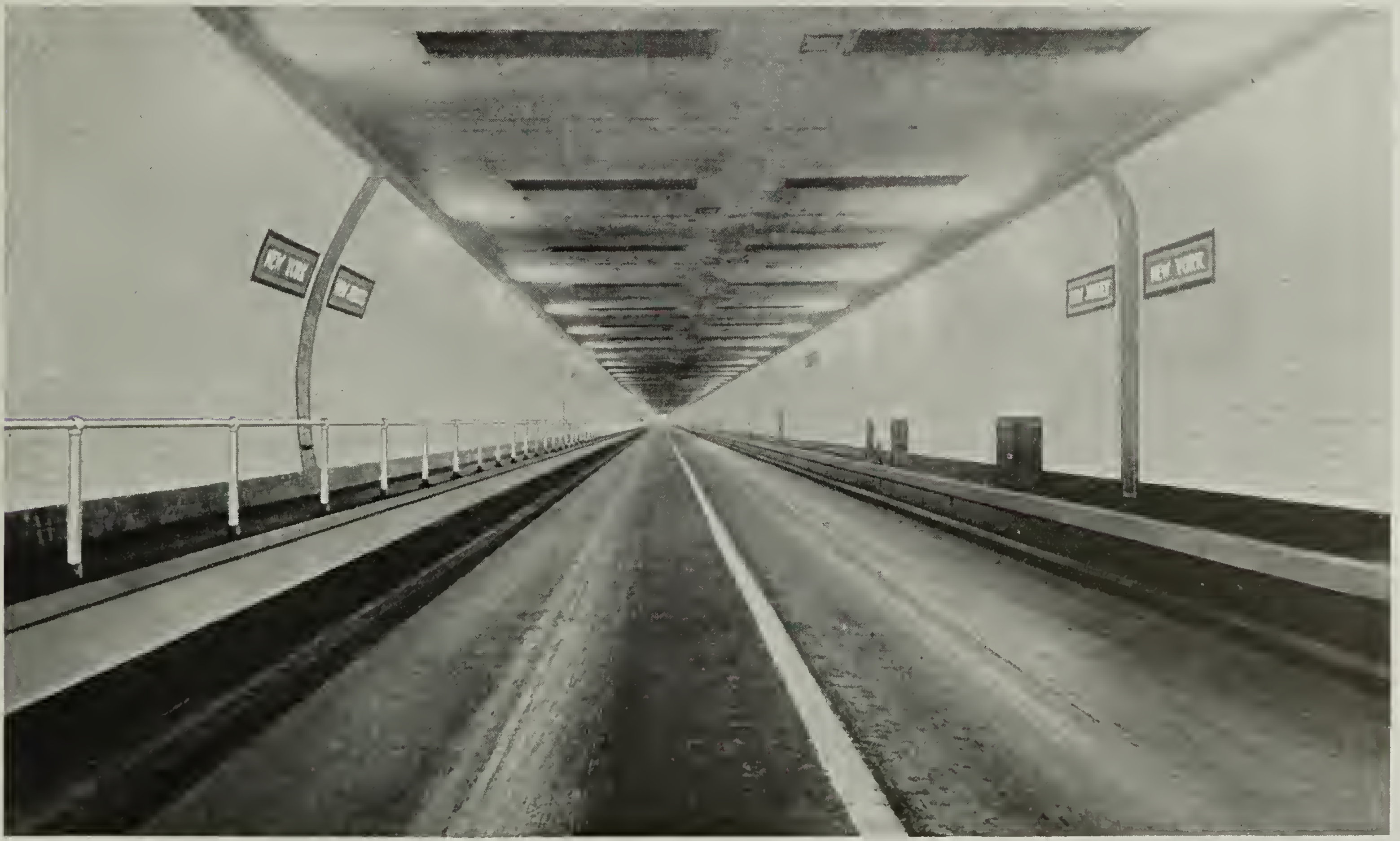
Gymnasium, Pennsylvania State College—Pipe Railing



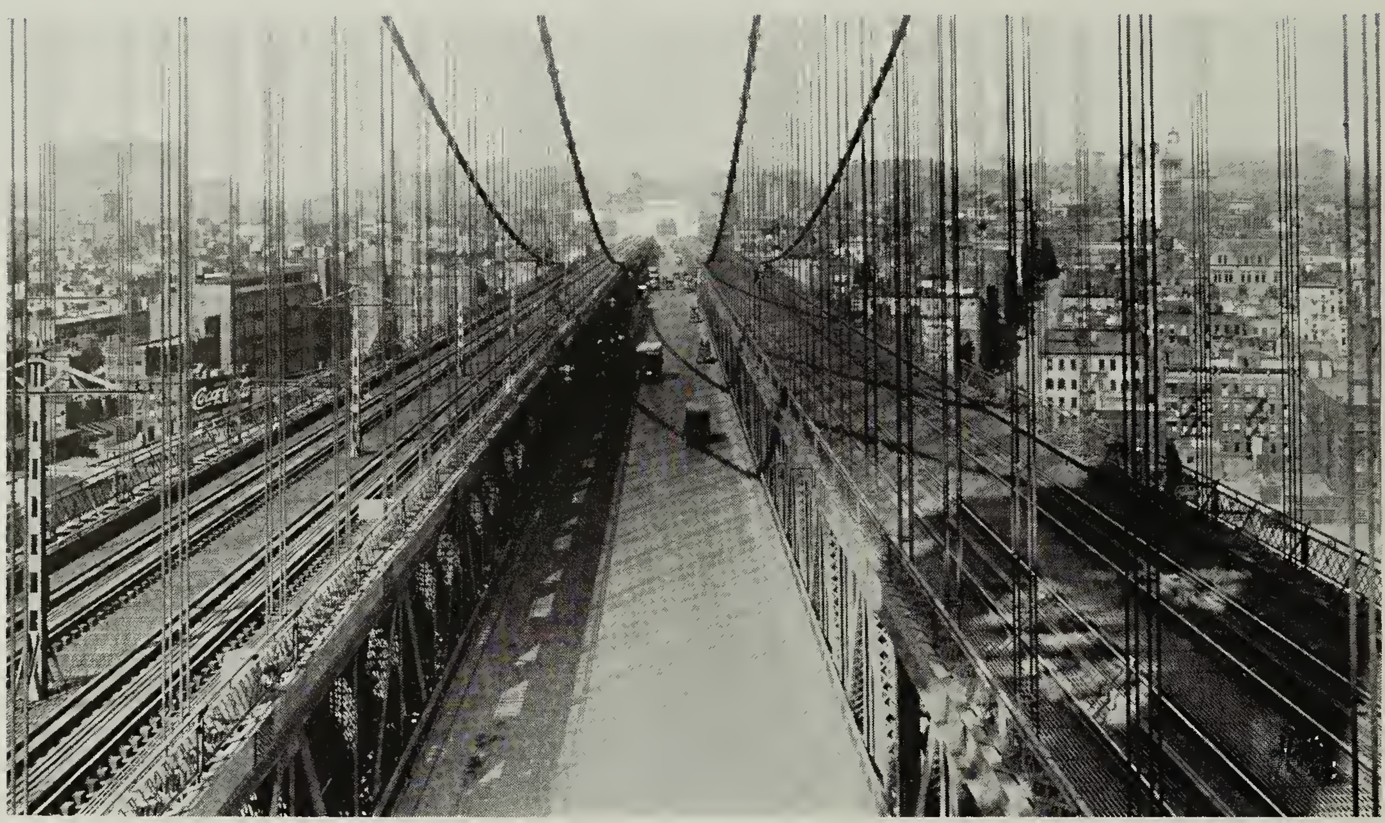
University of Pennsylvania Palestra, Philadelphia, Penna.—Collapsible Pipe Railing



New York Connecting R.R.-Hell Gate Bridge, New York City—Pipe Railing

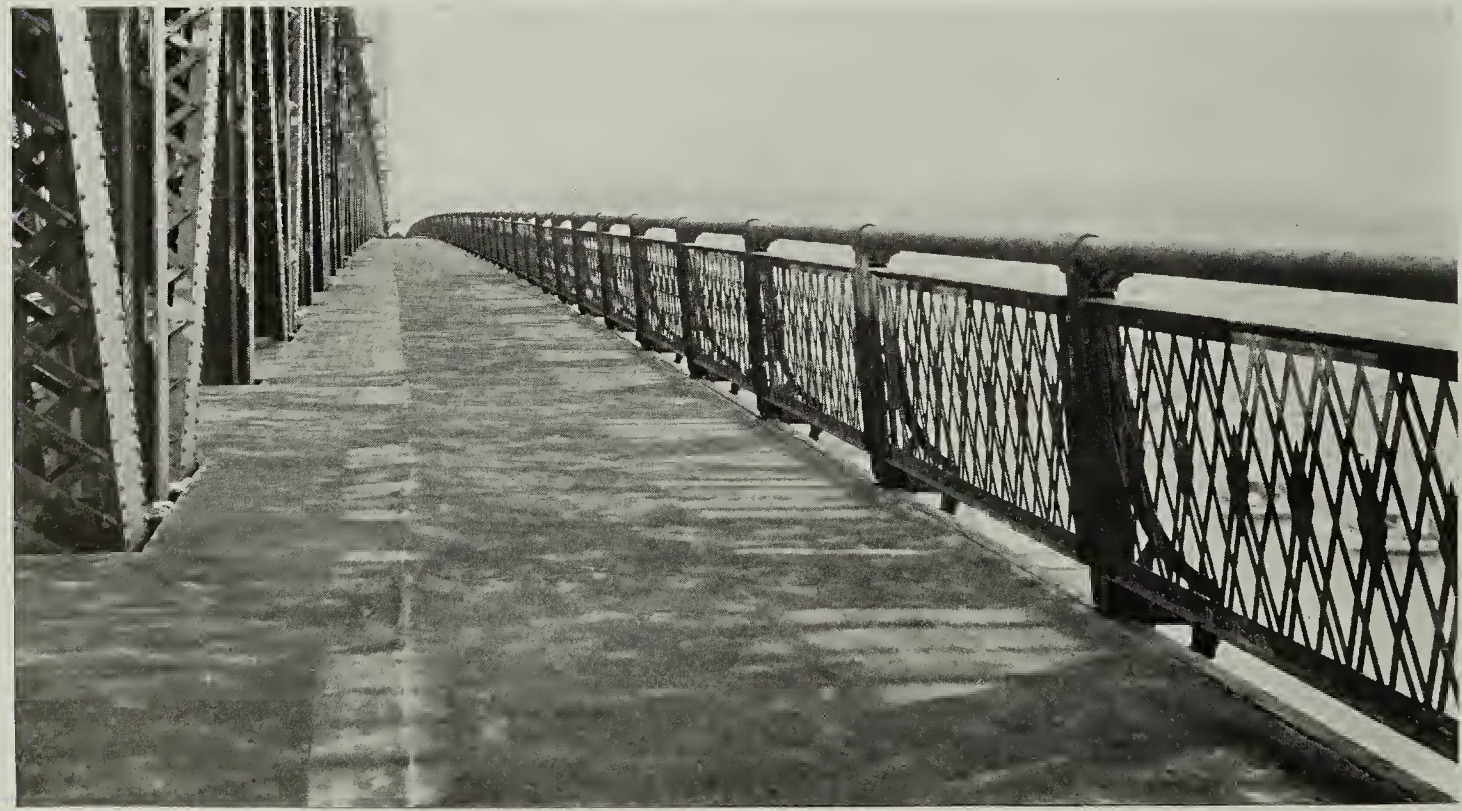


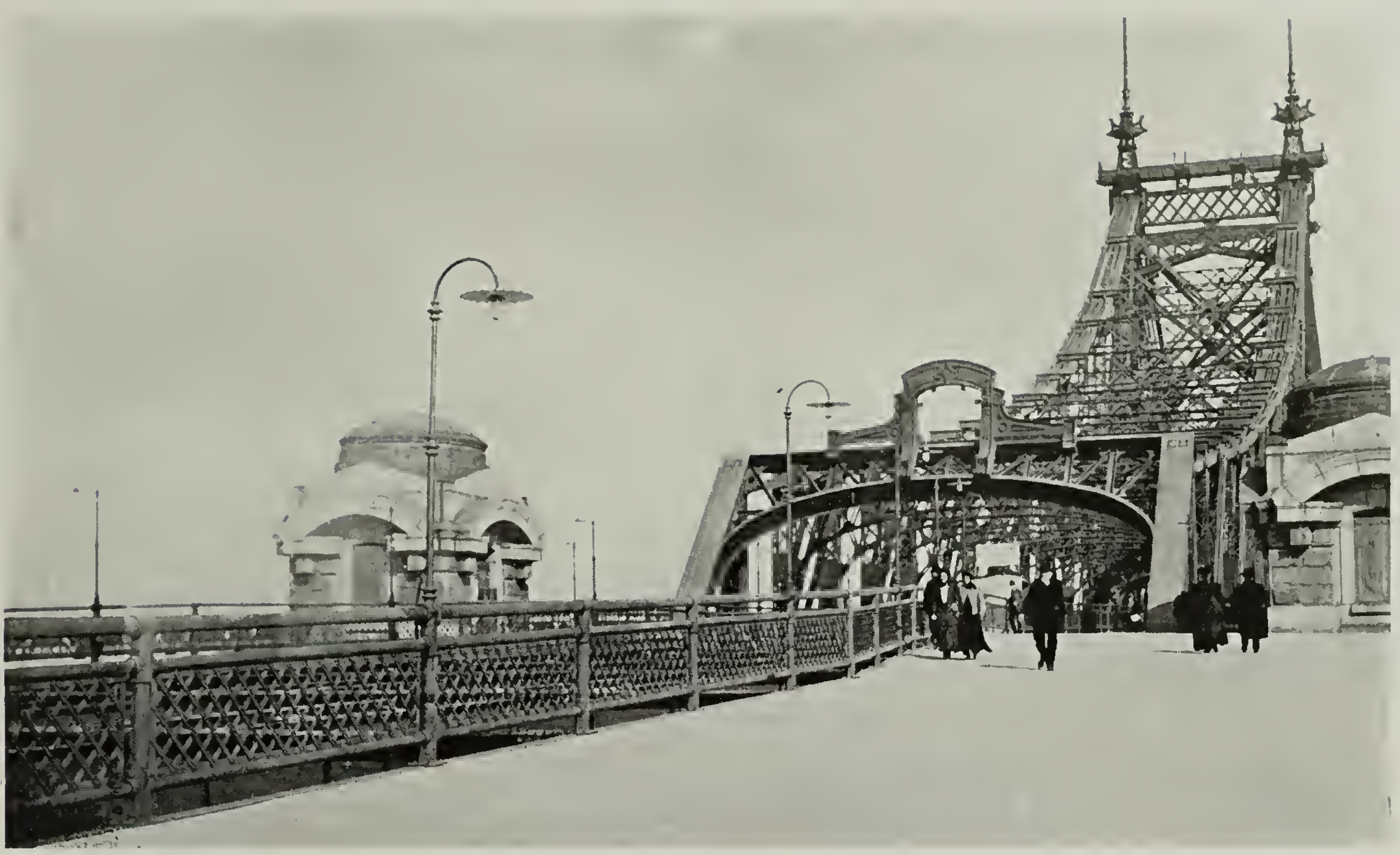
Holland Tunnel, New York City to Jersey City—Pipe Hand Rail, Vitreous Enameled Finish



MANHATTAN BRIDGE—Over East River, New York City

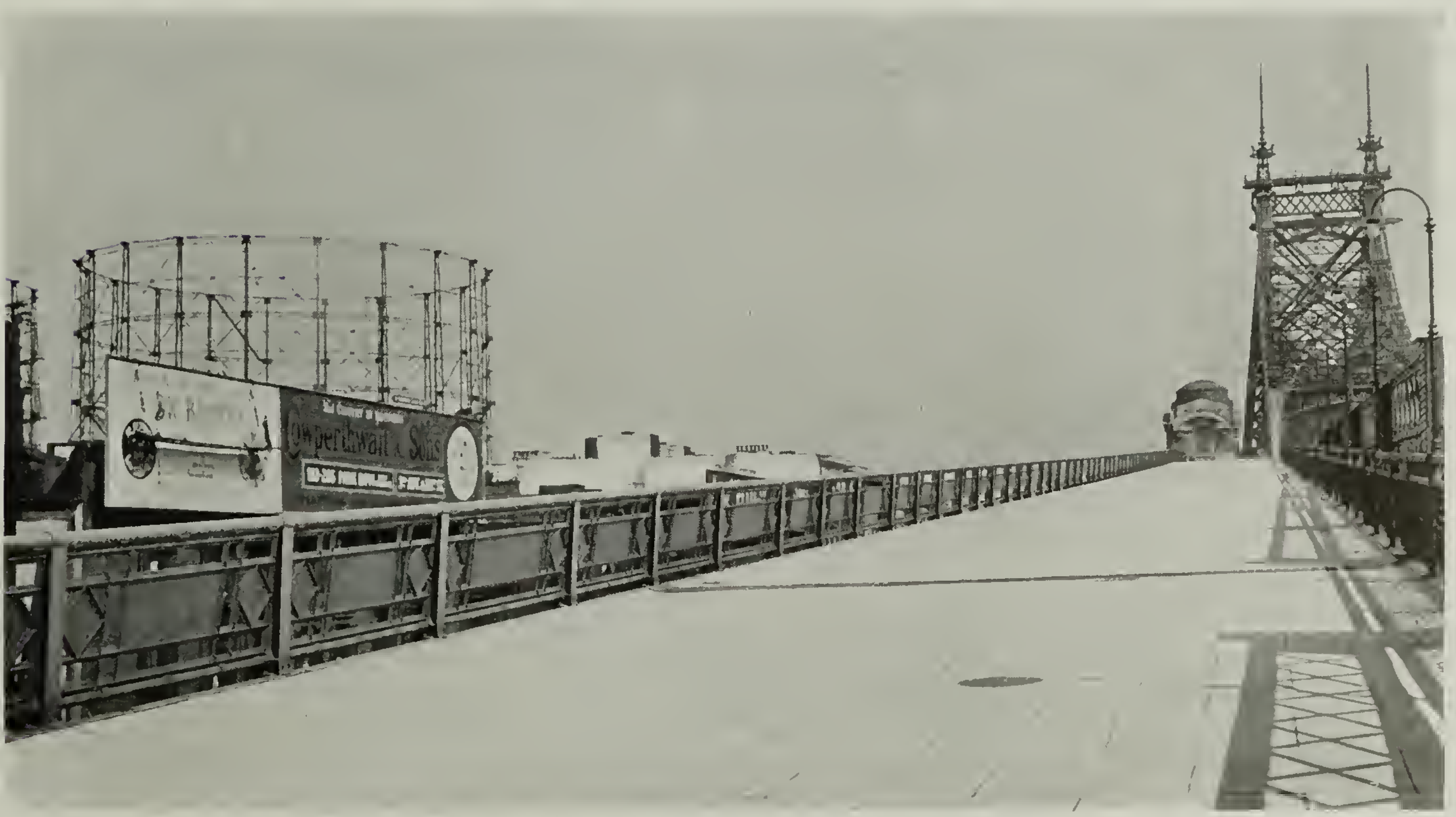
WE FURNISHED and installed all the Ornamental Metal Work on this Bridge at the time of its construction which included the Railings, Lamp Posts, Stairs, Ladders, etc. Since the completion of the Bridge we have executed a number of Contracts which included equipping both Upper Decks for Trolley Cars; installation of Traveling Platforms for Painters; installation of Pipe Lines; changes to the Approaches; additional Railing; and equipping the Easterly Deck for Vehicular Traffic. In all, we have furnished and installed on this Bridge over 10,000 tons of Metal Work.

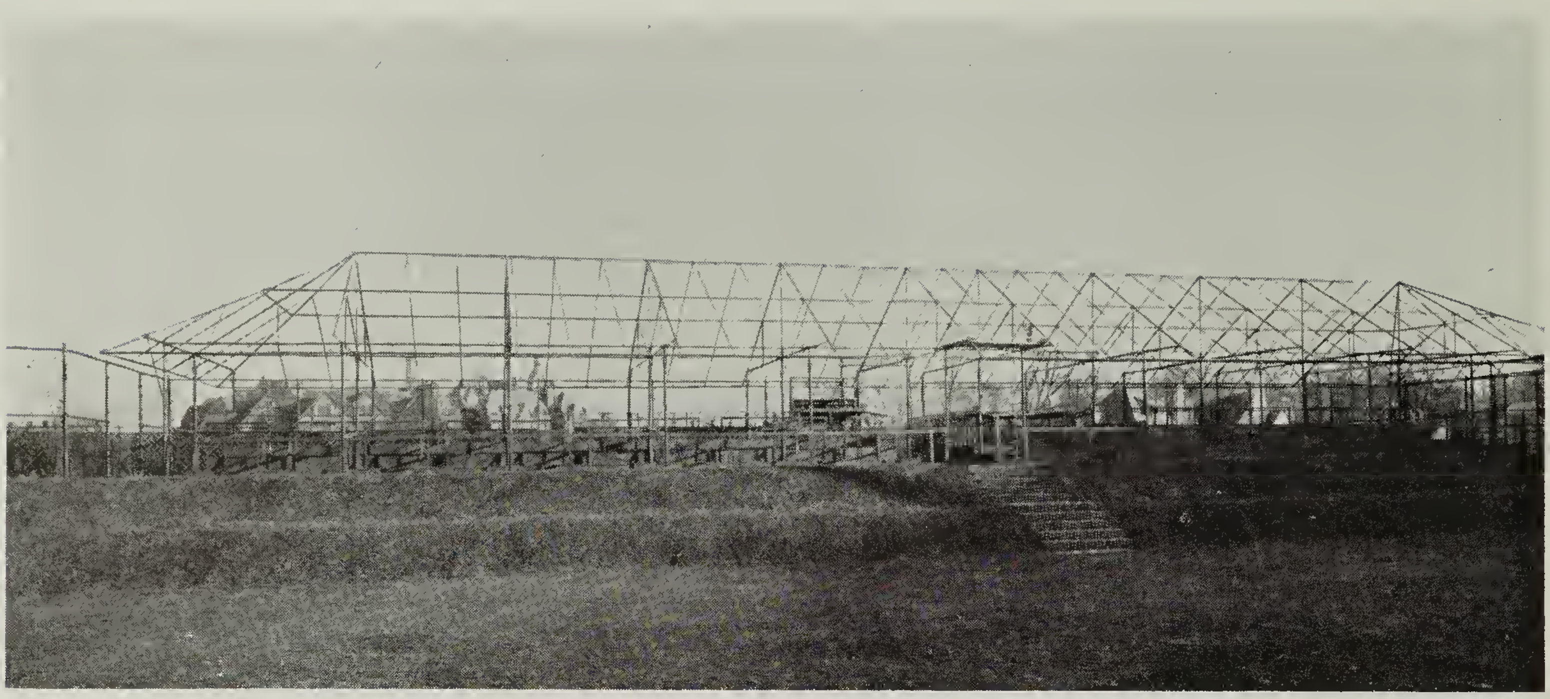




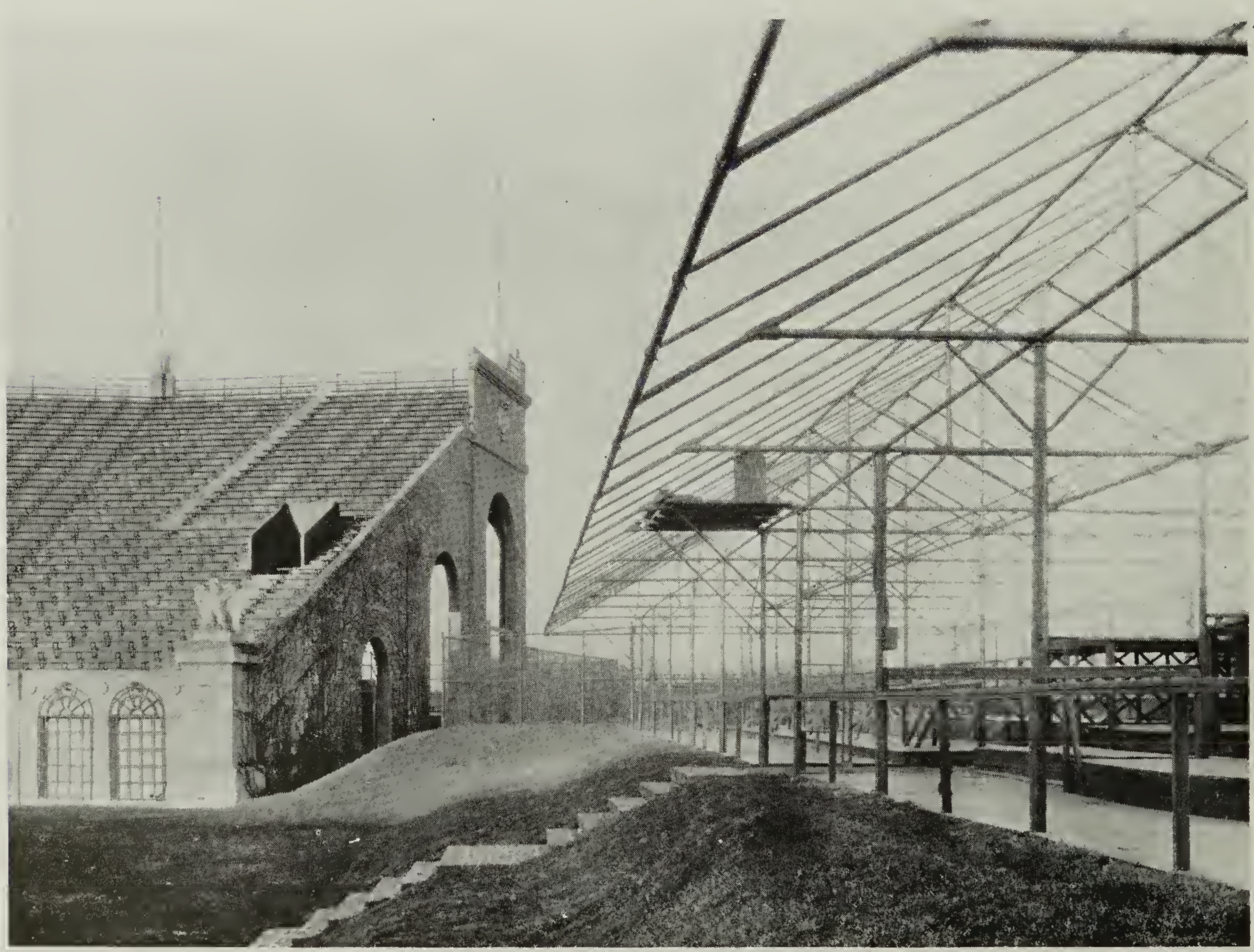
QUEENSBOROUGH BRIDGE—Over East River, New York City

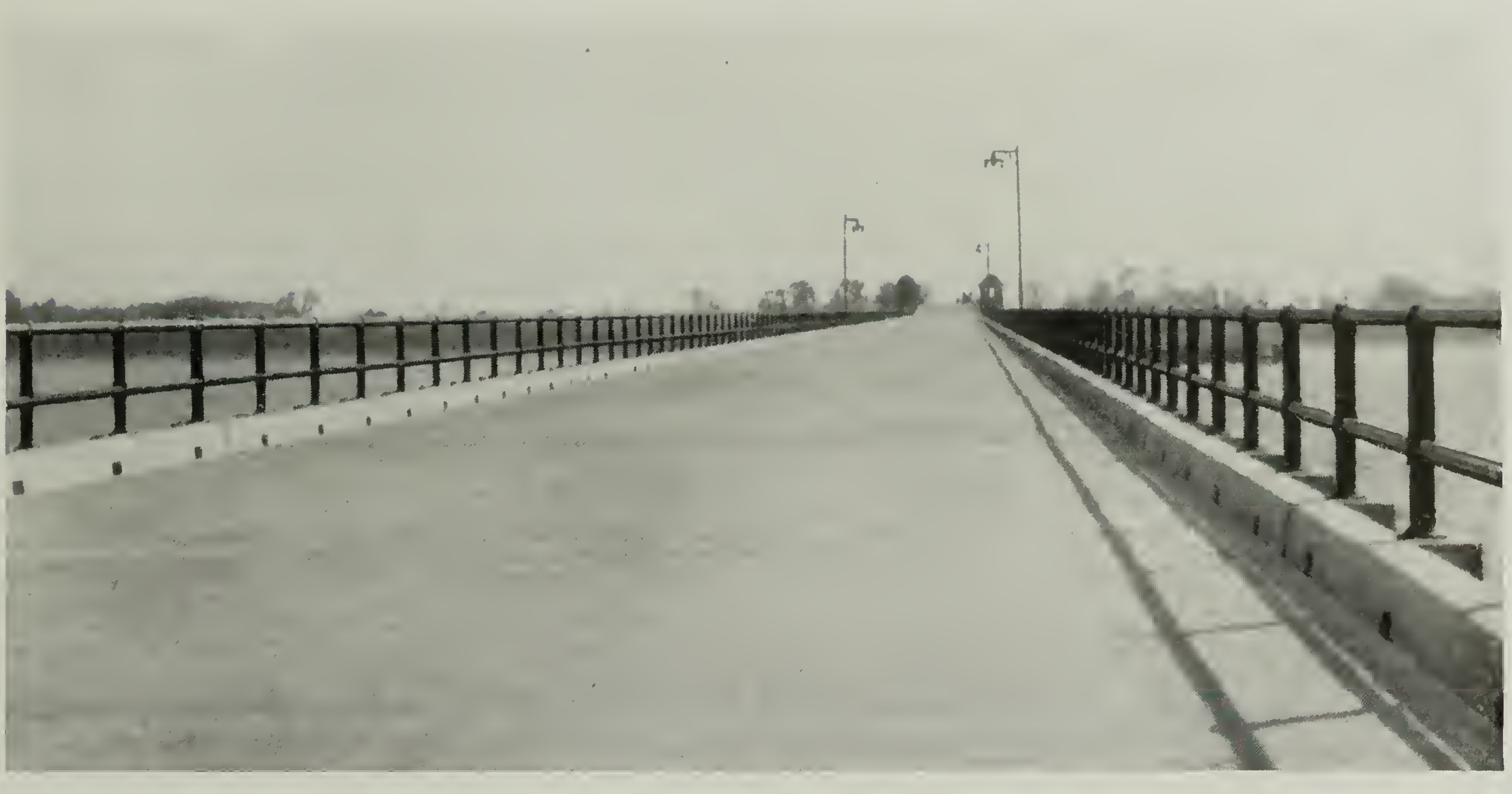
WE have furnished and erected over 10 miles of Railing on this Bridge.





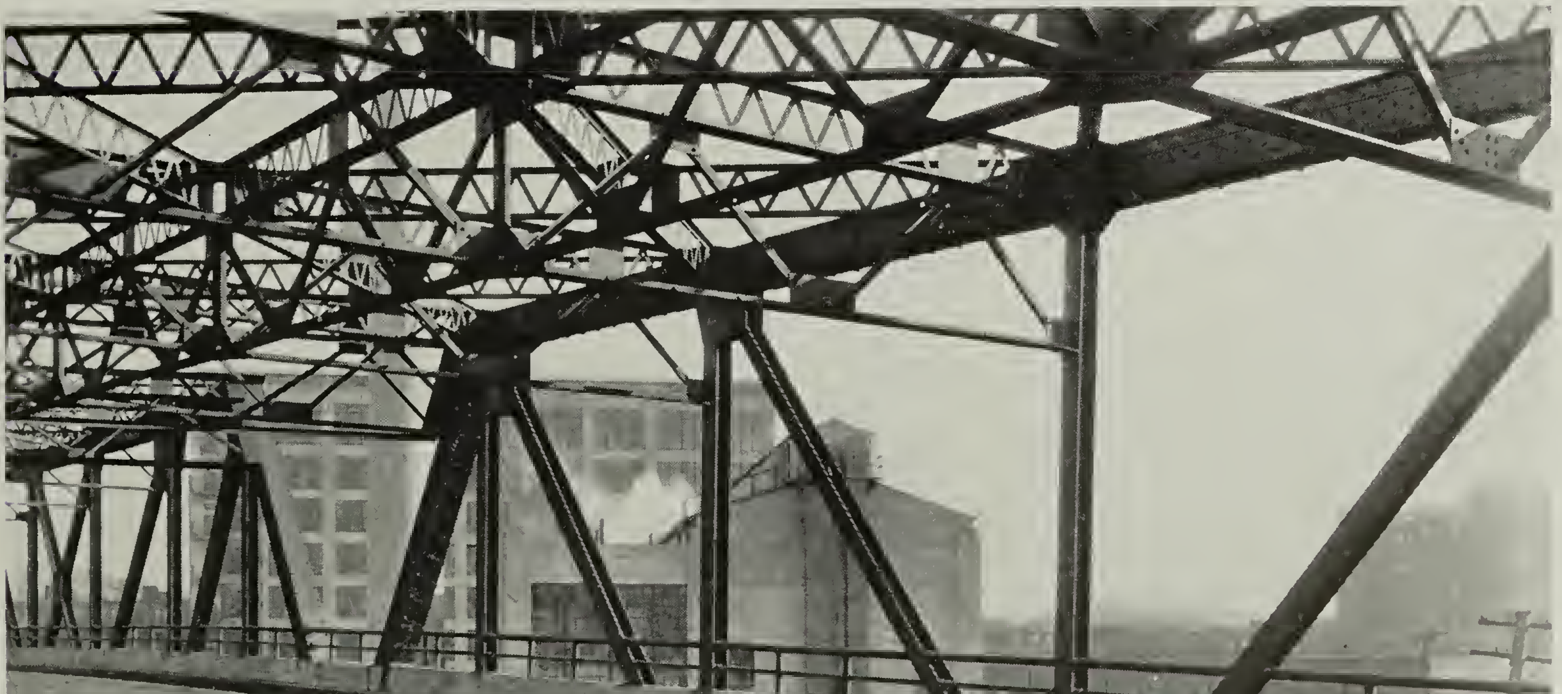
West Side Tennis Club, Forest Hills, N. Y.
Pipe Framework for Officials and Press Stand
Pipe Railing for Stadium



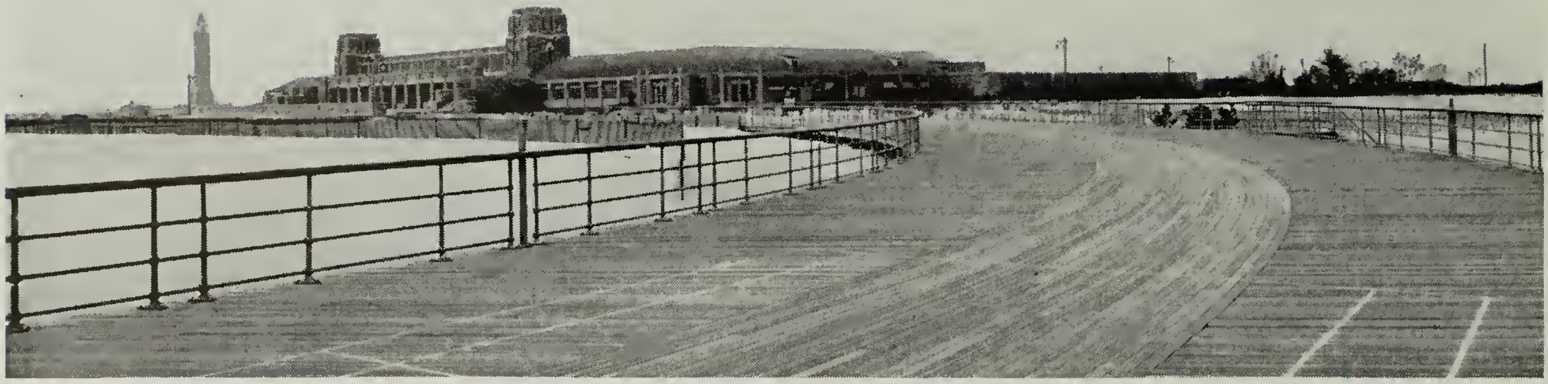


Bridges over James River, Nansemond River and Chuckatuck Creek at Hampton Roads, Va. Connecting Newport News, Va., and Portsmouth, Va.

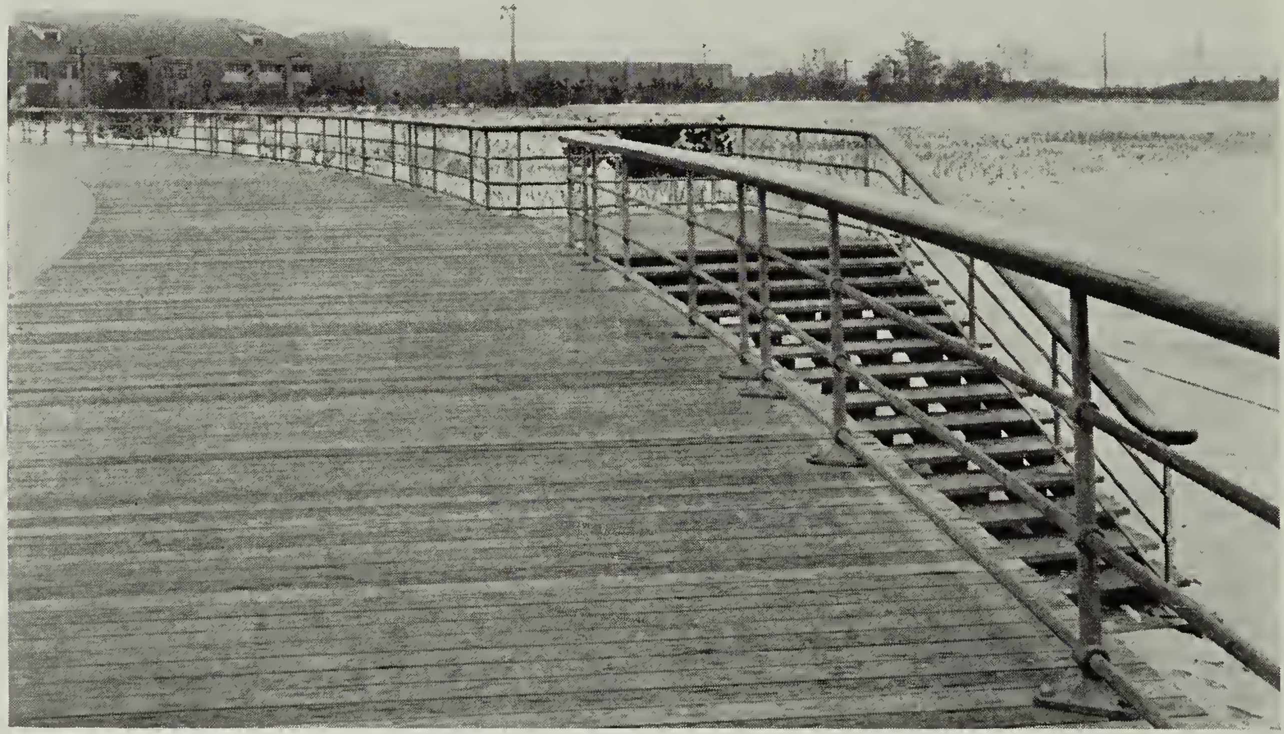
We furnished and erected over 57,000 feet of Extra Heavy Pipe Railing and 120 Lamp Posts. Copper Bearing Pipe used throughout.

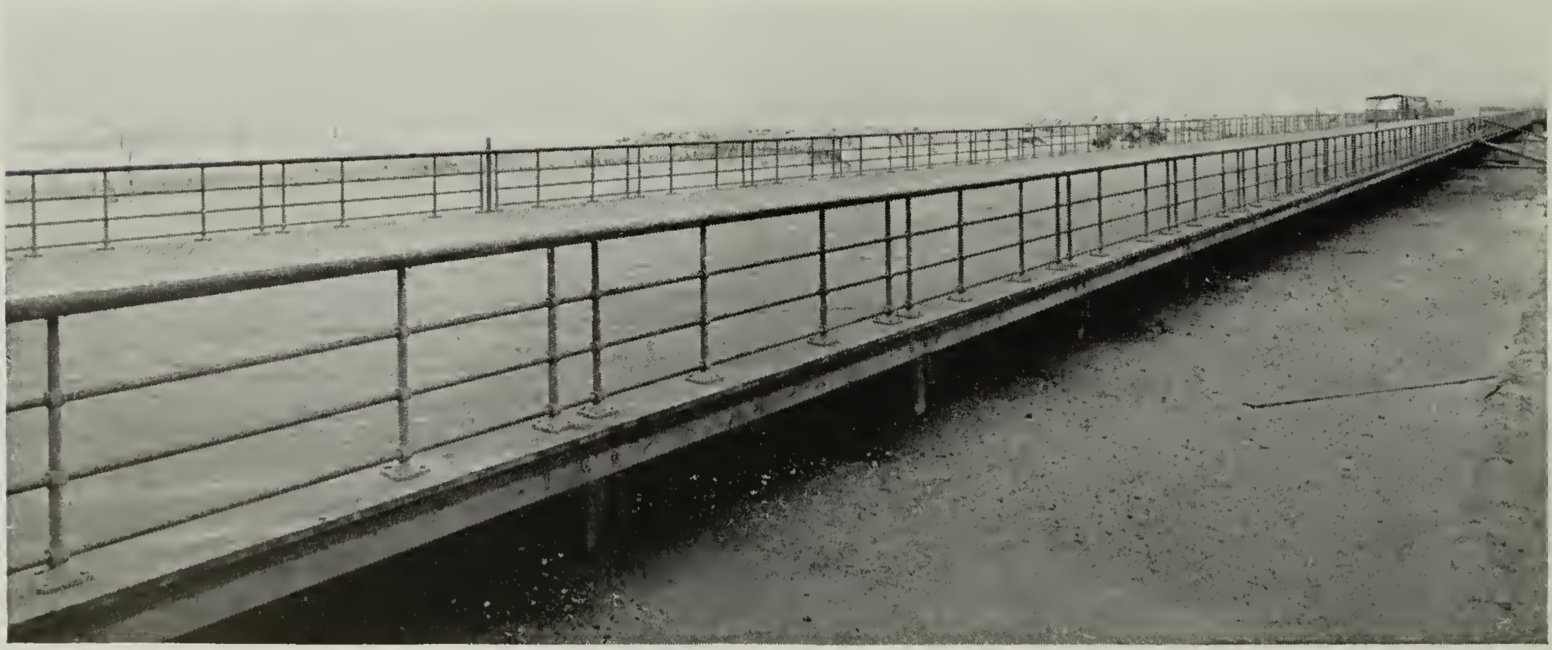


Lincoln Highway Bridge, Jersey City, N. J.—Pipe Railing



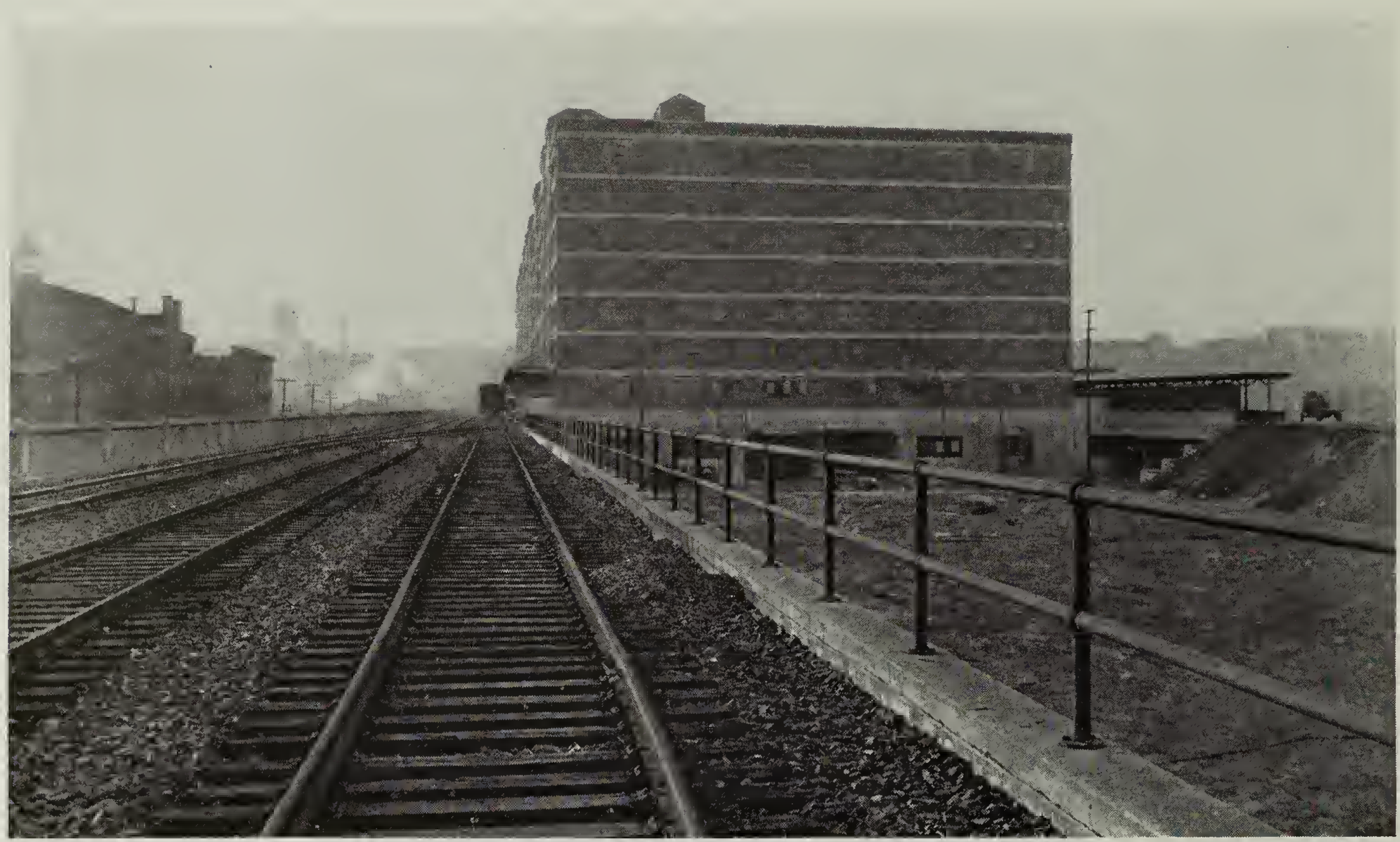
Long Island State Park Commission
Jones Beach Boardwalk
Deck Railings and Pavilions



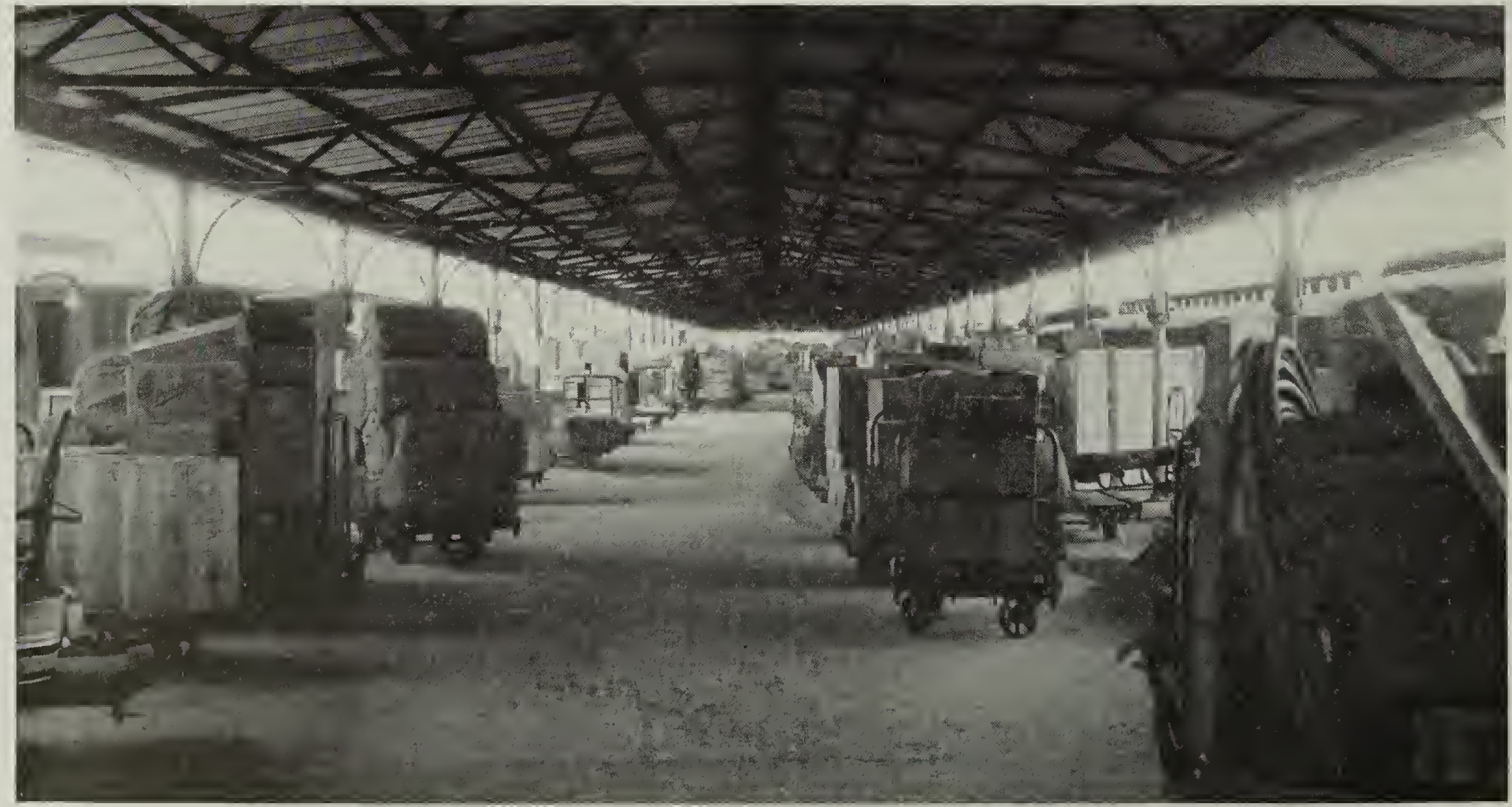


RAILING FOR BARRACKS BUILDINGS

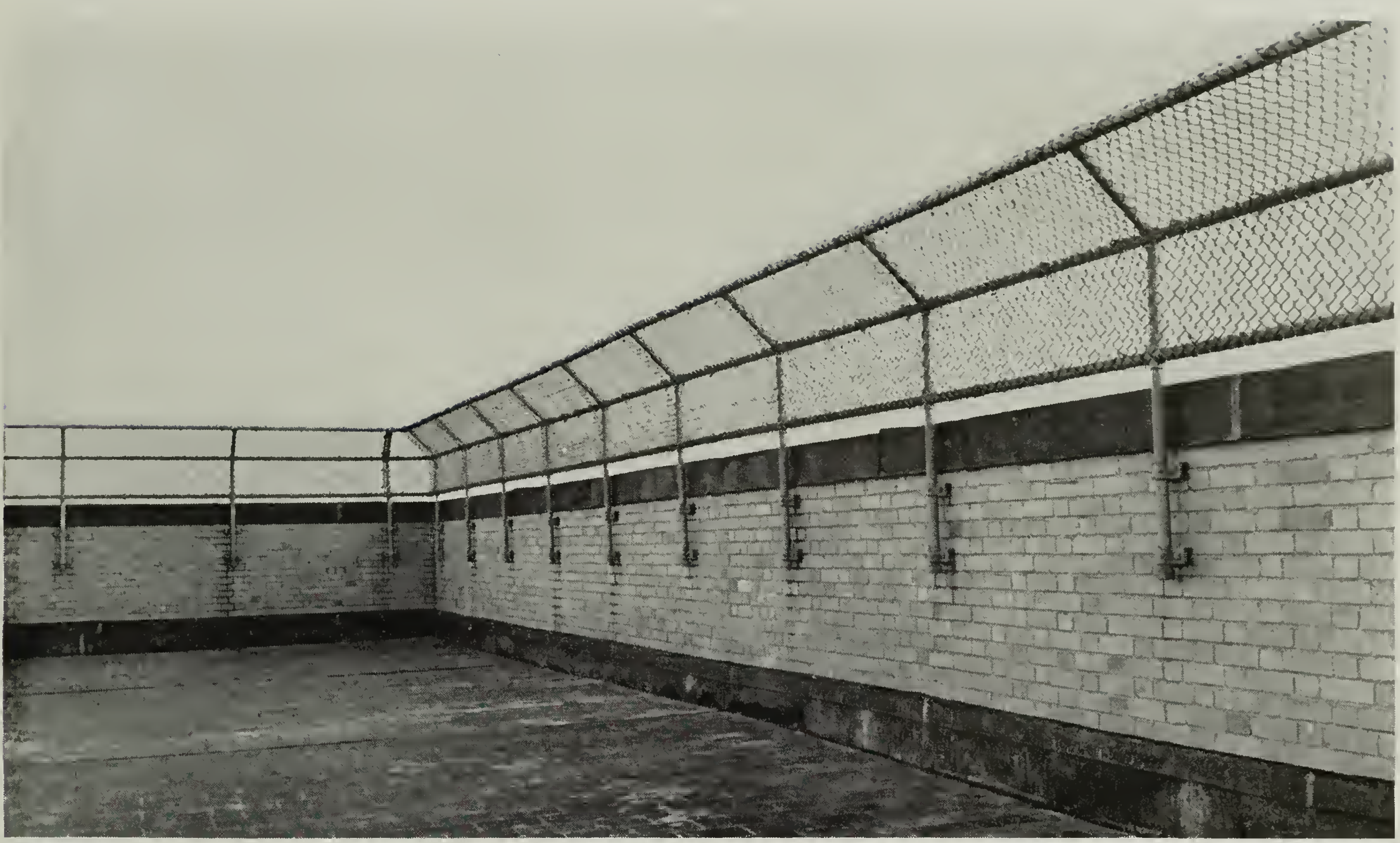
WE have furnished and erected Pipe Railing for over 40 Barracks Buildings at Government Posts throughout the United States.



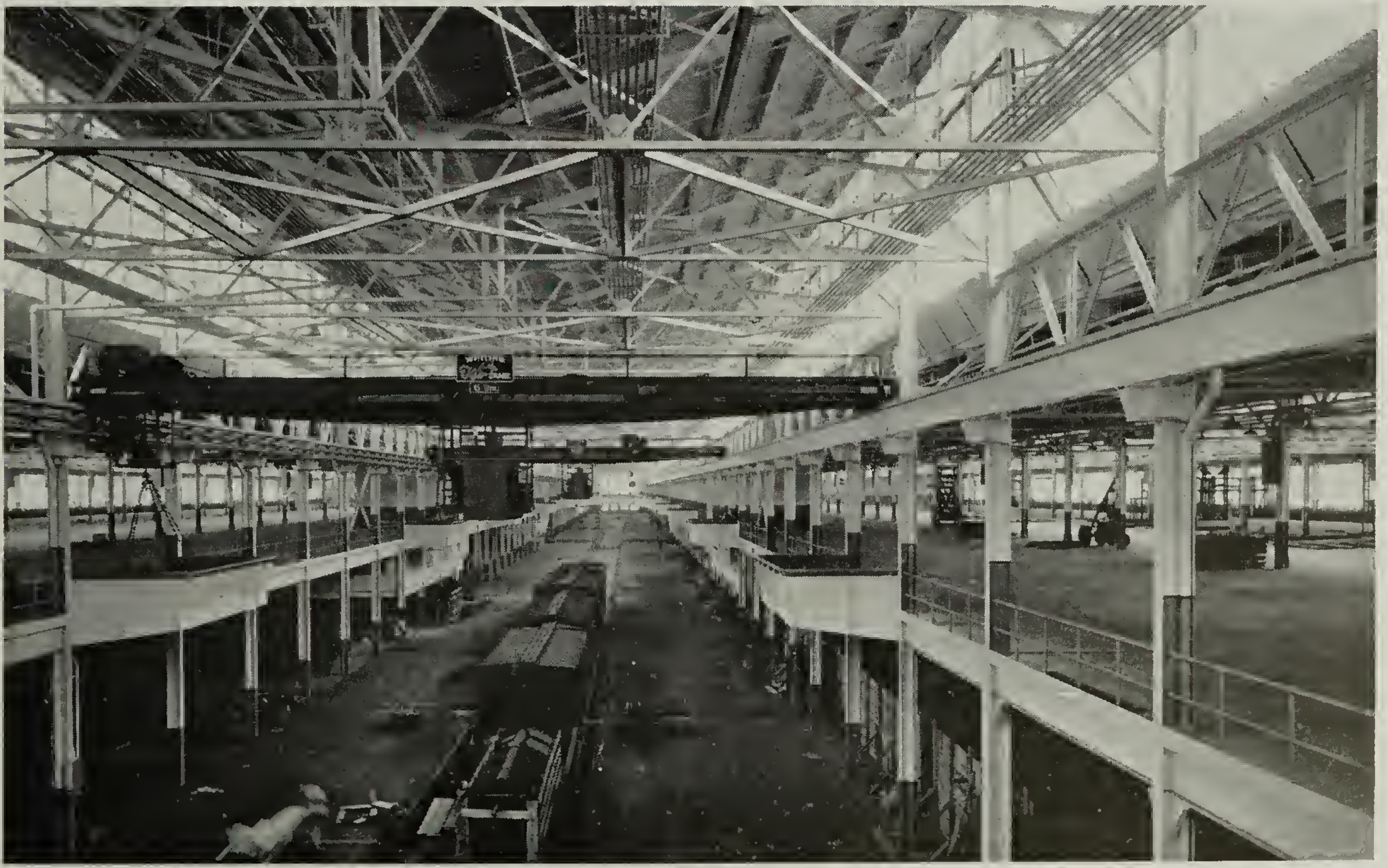
D. L. and W. Warehouse, Jersey City, N. J.
Pipe Railing throughout Building and on Retaining Walls



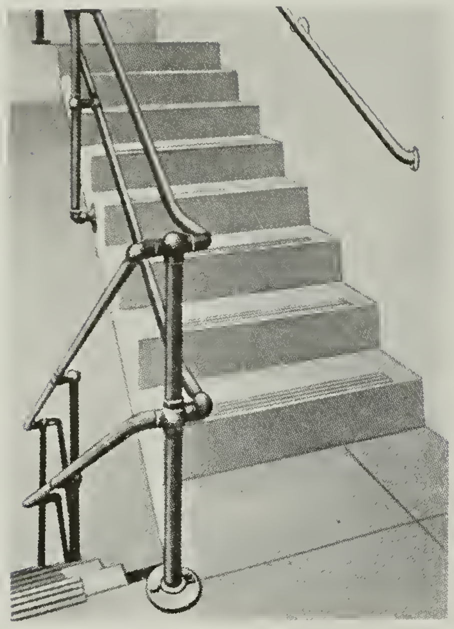
American Railway Express Sheds, Jacksonville, Fla.
Combination Pipe and Steel Platform Shelters



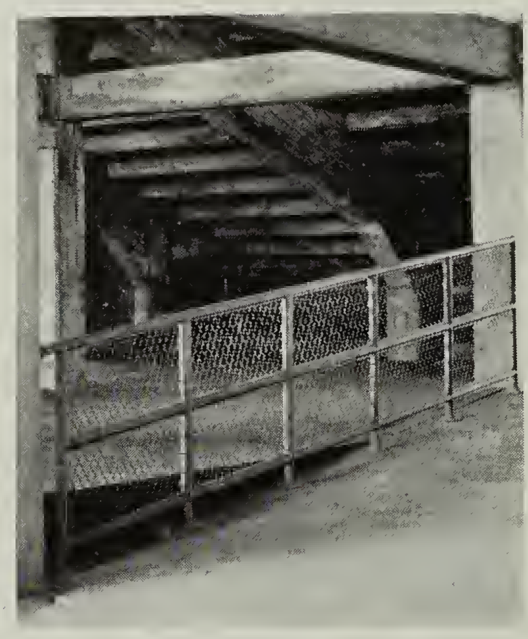
Public School, New York City—Railing on Roof Coping



Ford Motor Co. Plant, Edgewater, N. J.—Pipe Railing

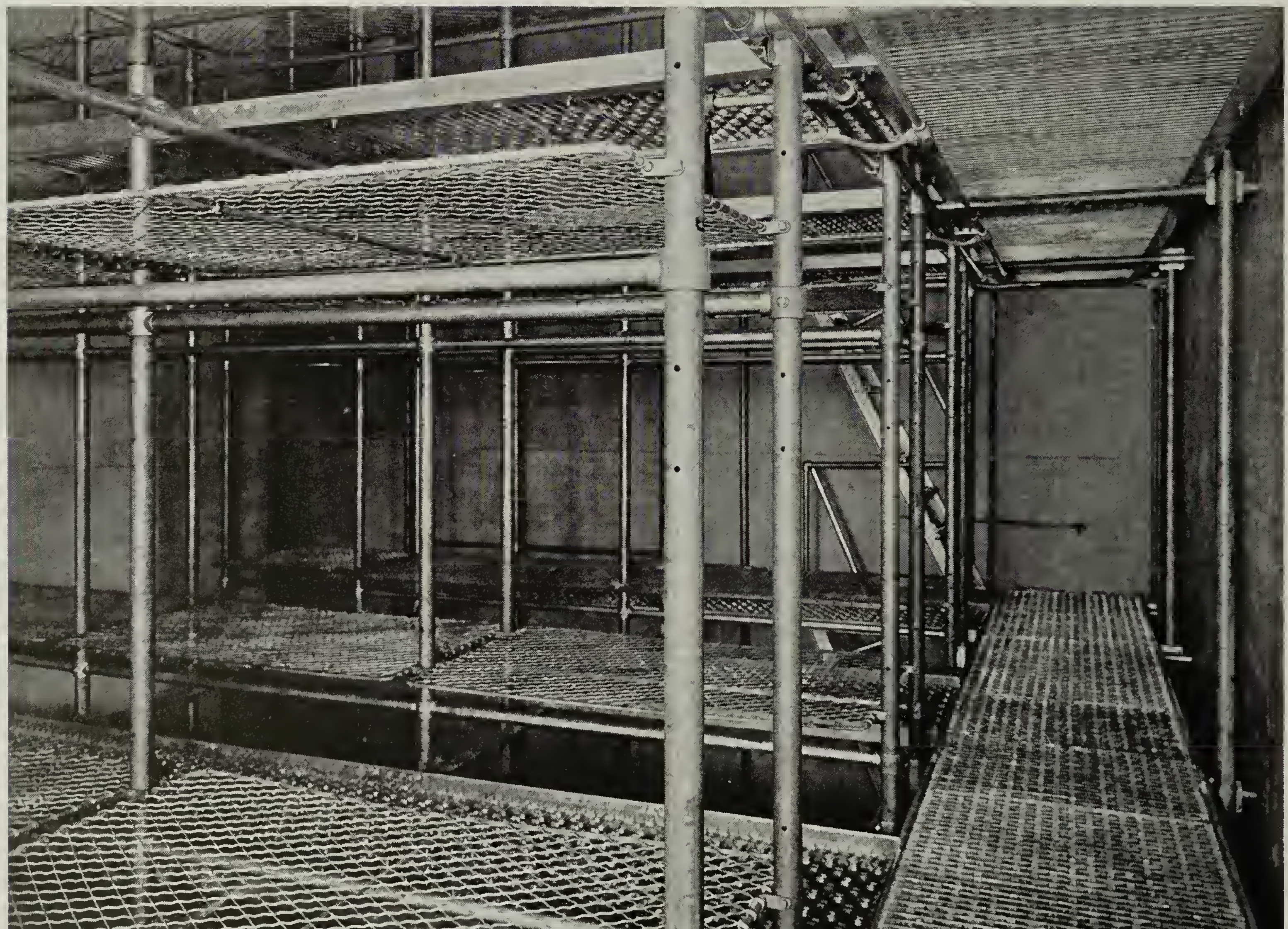


Standard Pipe Stair
and Wall Rail

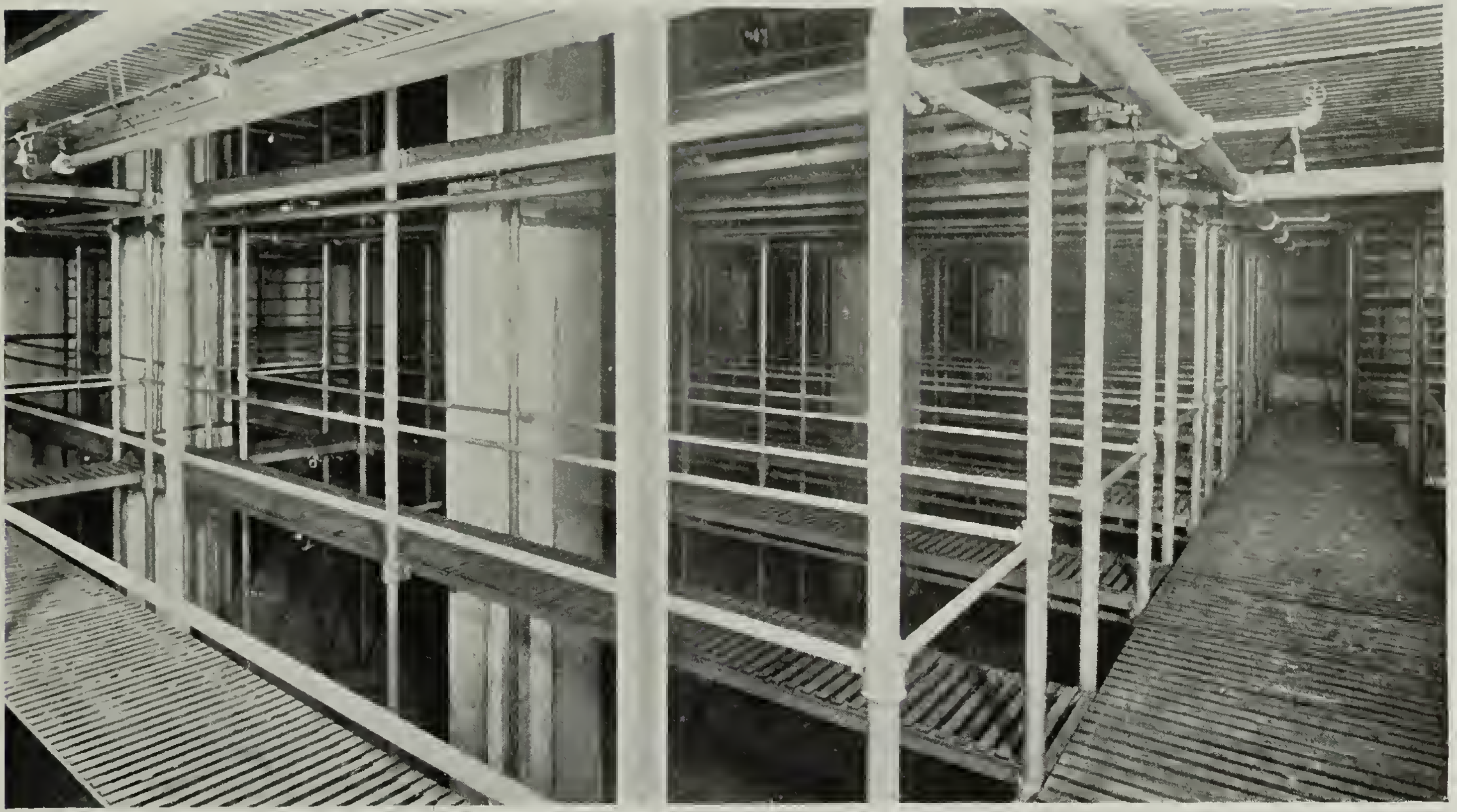


Welded Pipe Ramp Railing
with Wire Mesh

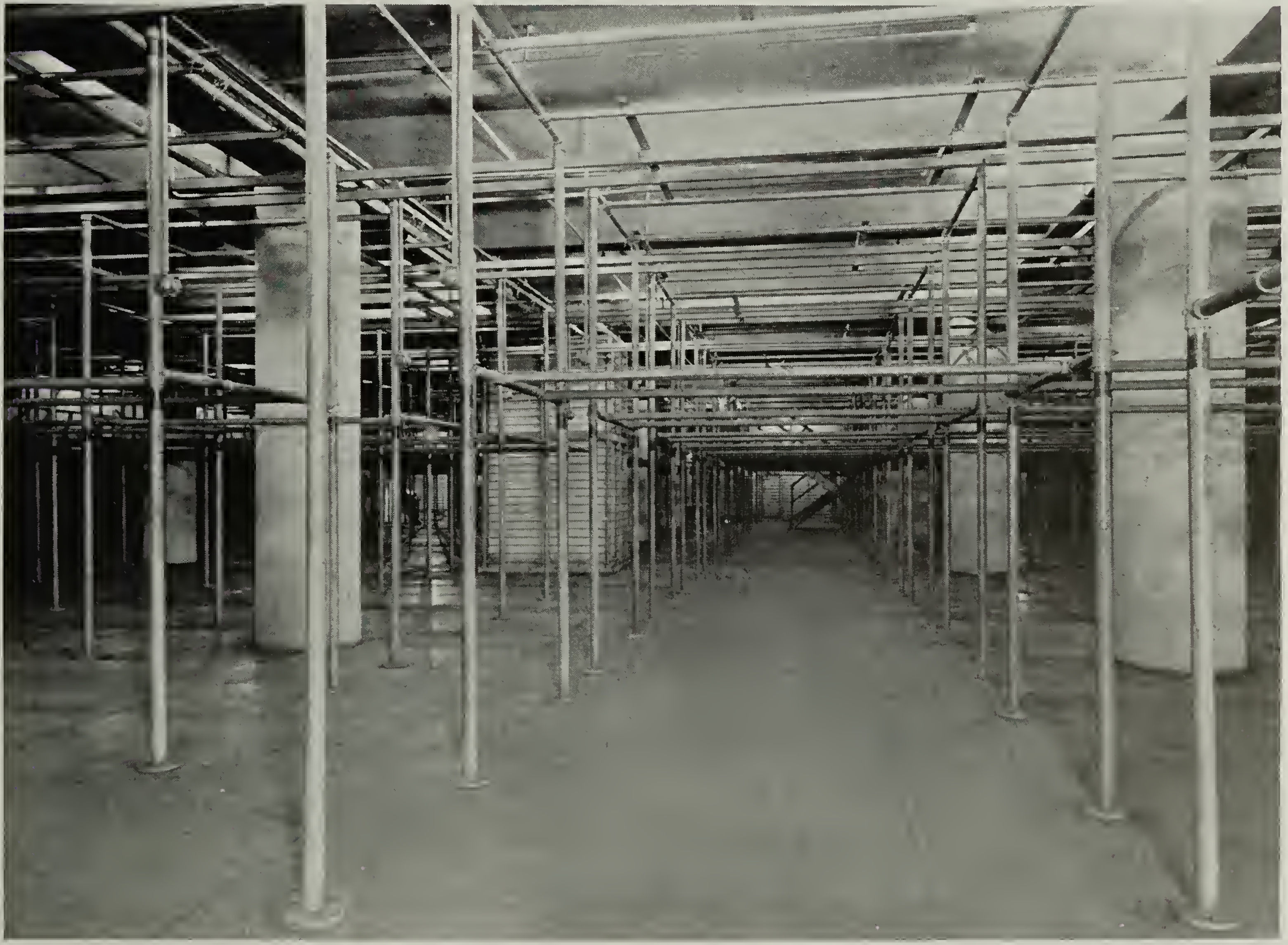
New York City—
Terrace Railing



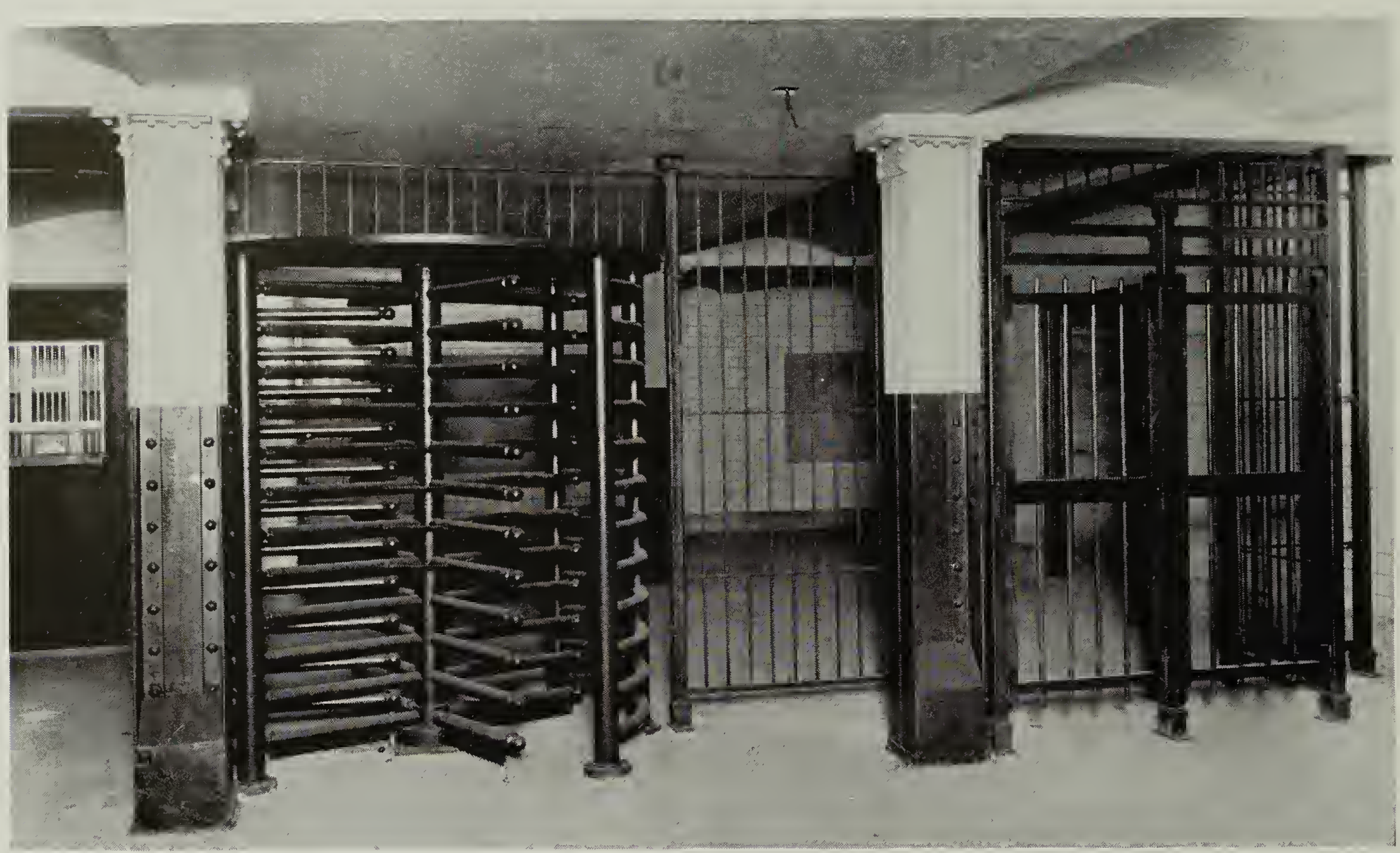
Department Store Warehouse, New York City
Section of One of Eighteen Vaults in this Building Equipped with Vulcan Fur Storage Racks



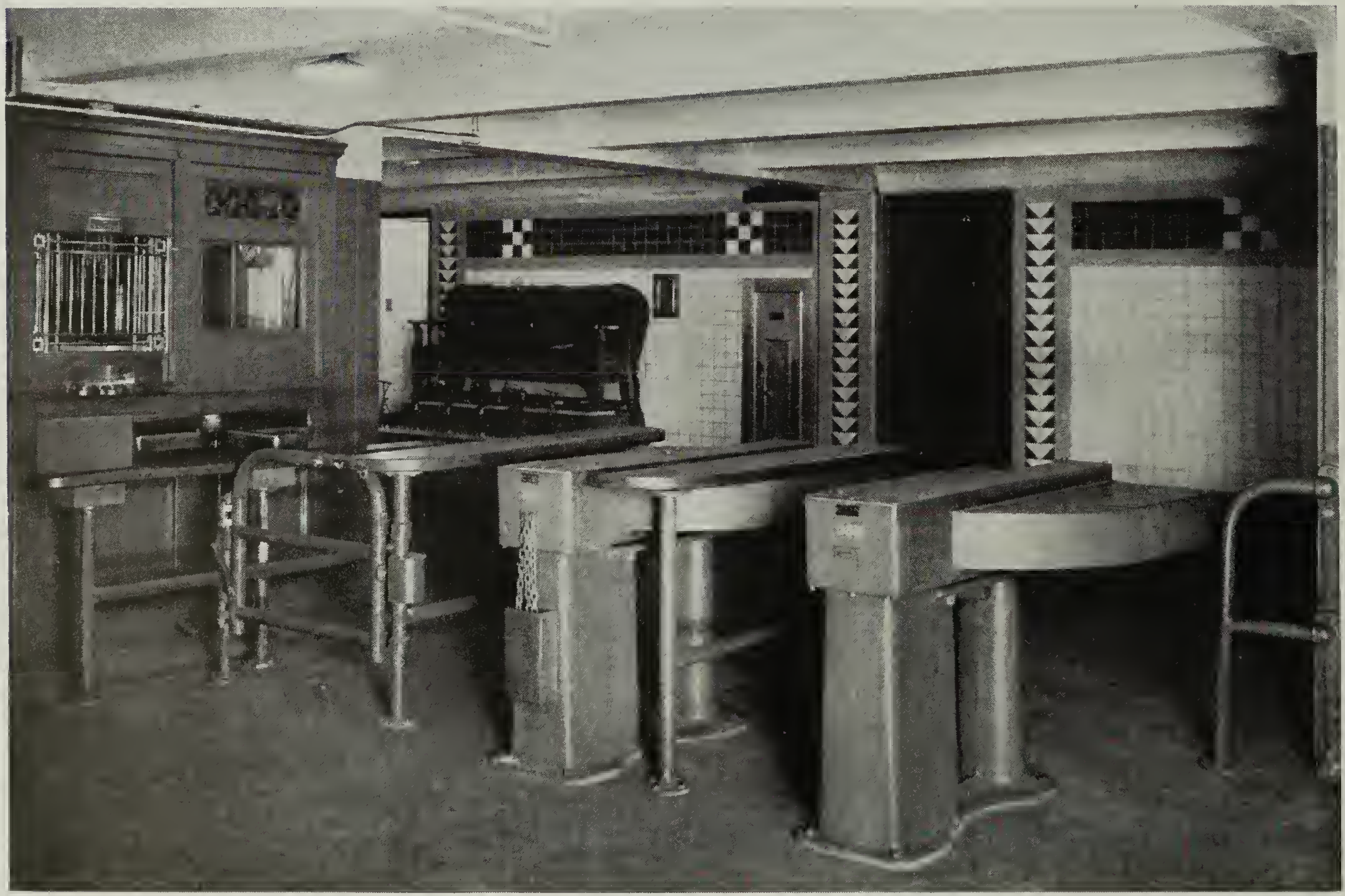
Frederick Loeser & Co. Fur Vault, Brooklyn, N. Y.—Vulcan Fur Storage Equipment



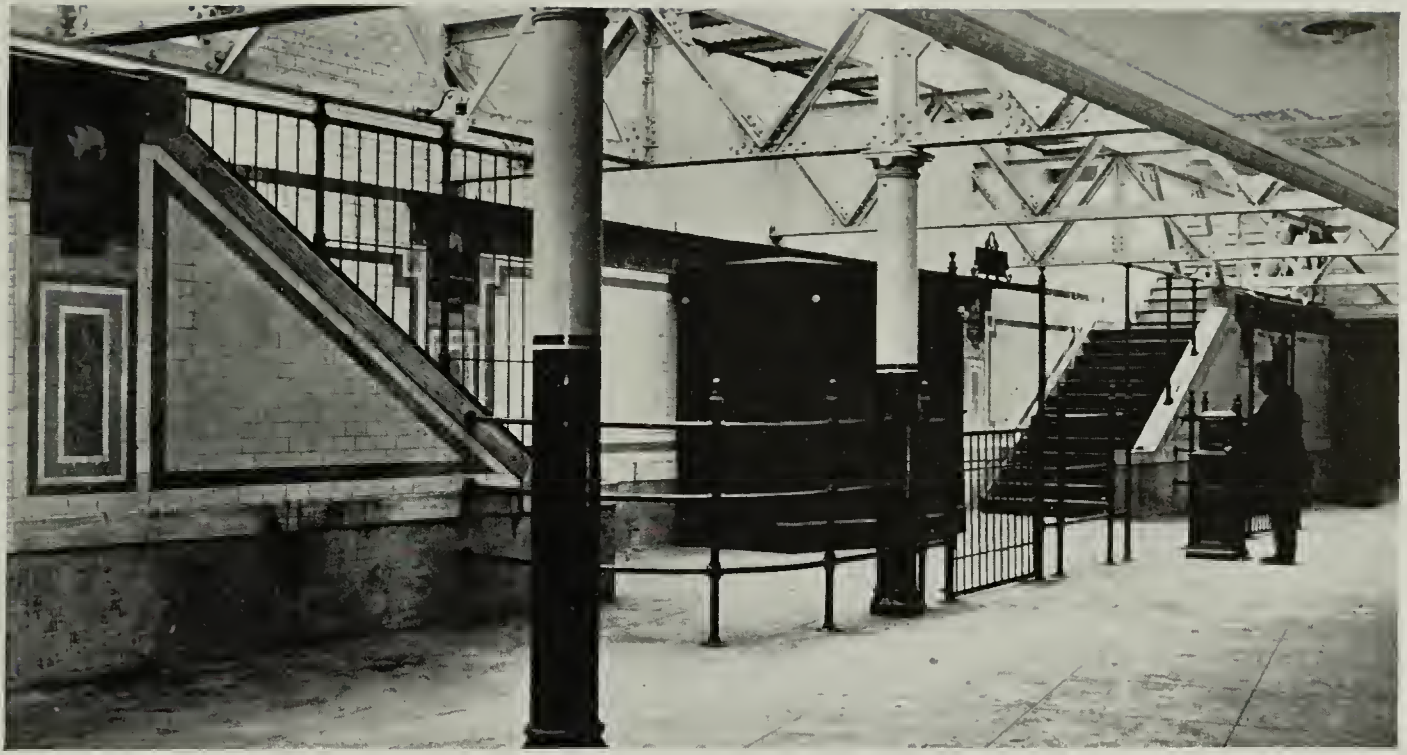
Gimbel Brothers Fur Vault, New York City—Vulcan Fur Storage Equipment



New York City, Subway Station—Turnstile, Gates, Grilles, Etc.

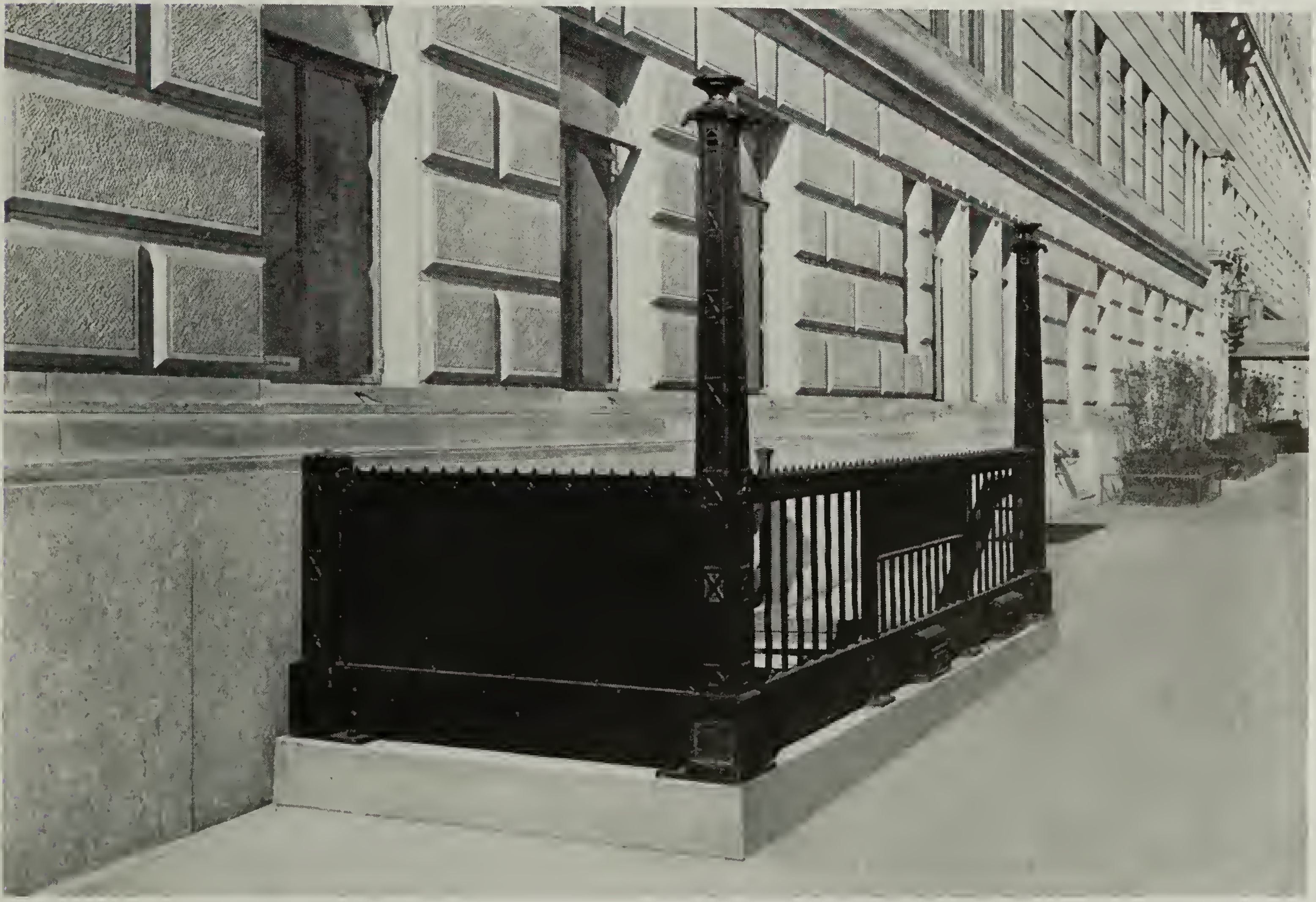


Broad St. Subway, Philadelphia, Penna.—Railings, Gates, Etc.

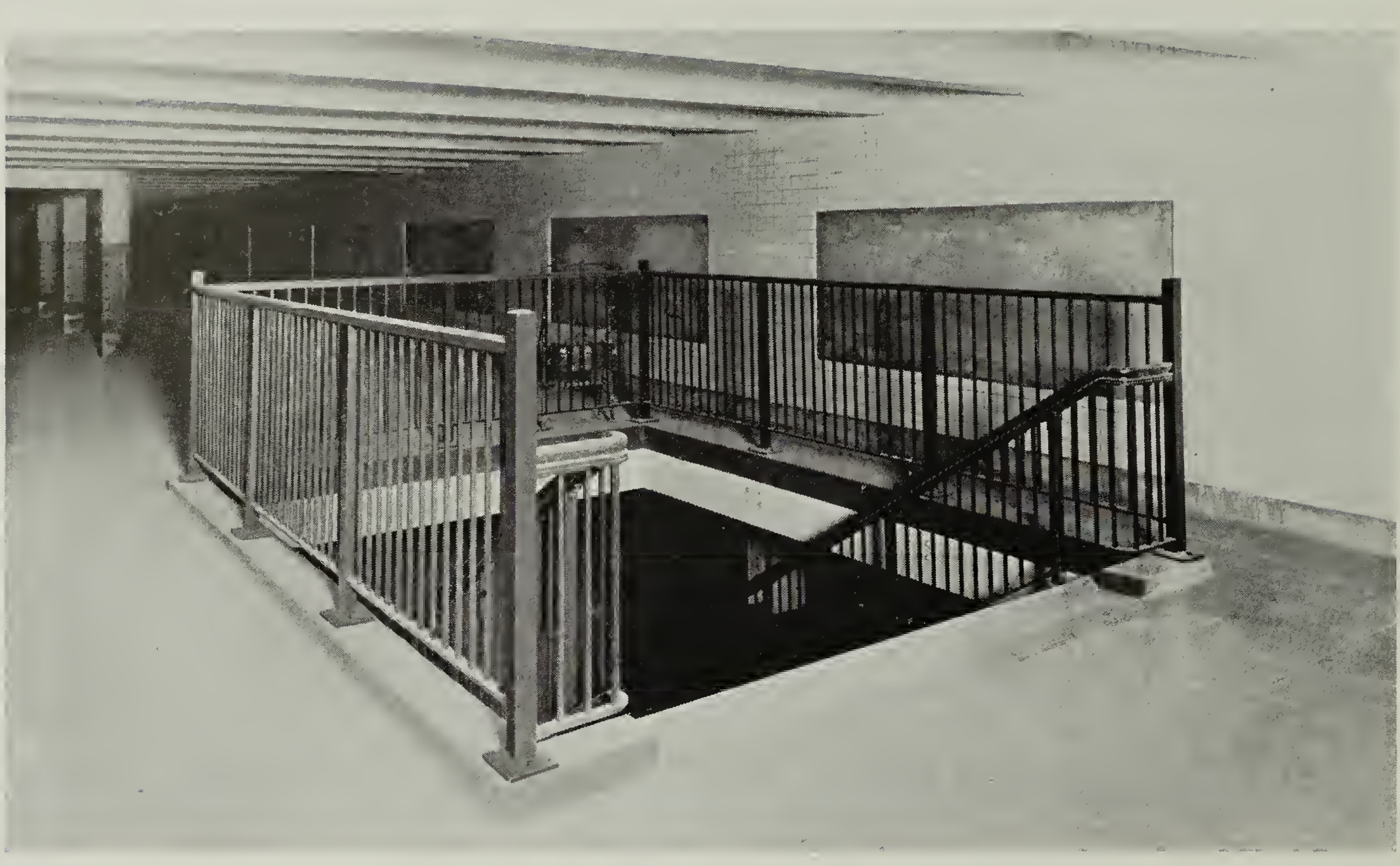


Subway Station, Broadway and 60th St., New York City

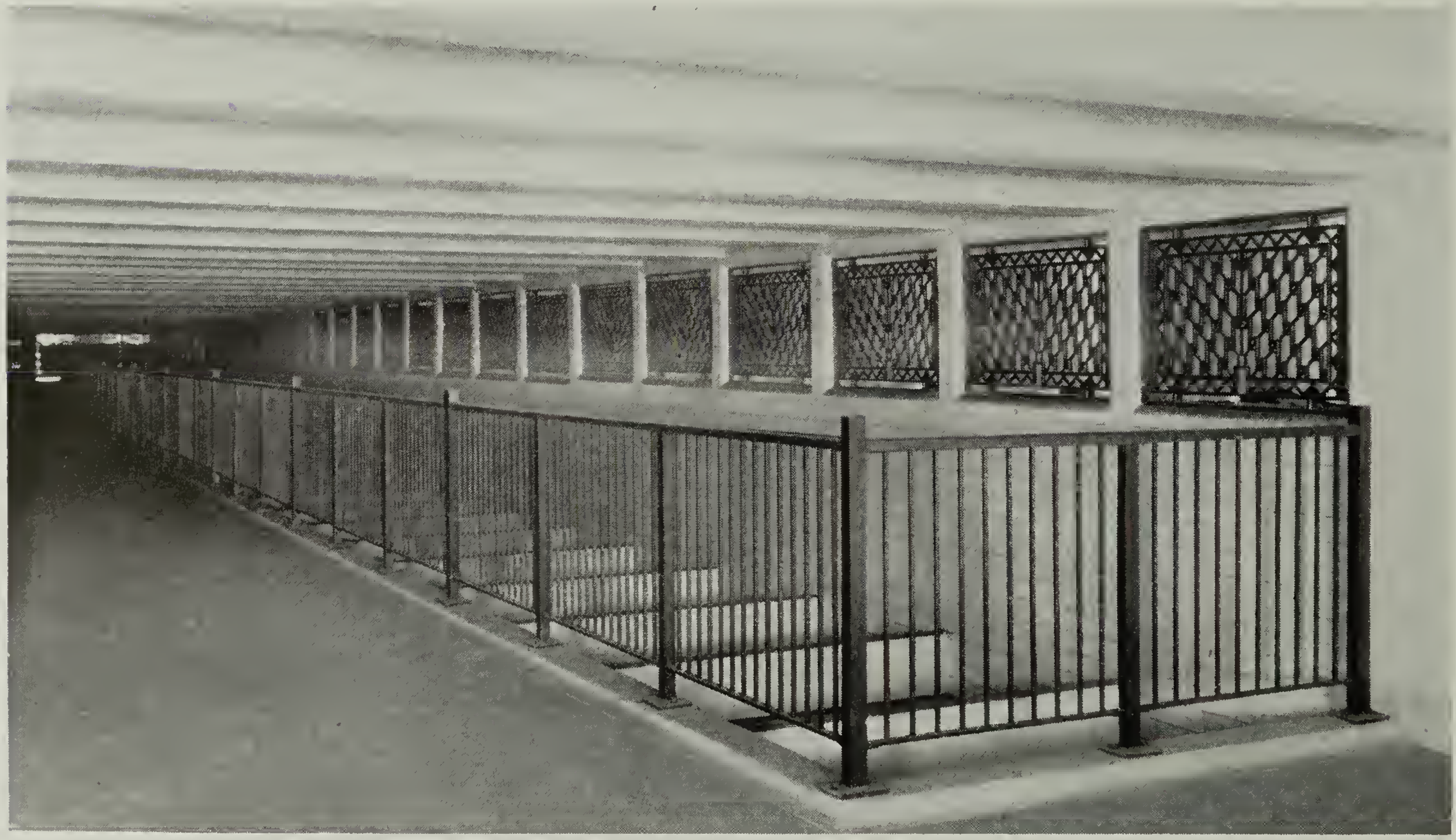
We furnished and erected the Railings, Gates, etc., in the Stations of the original Subway from City Hall to Harlem.



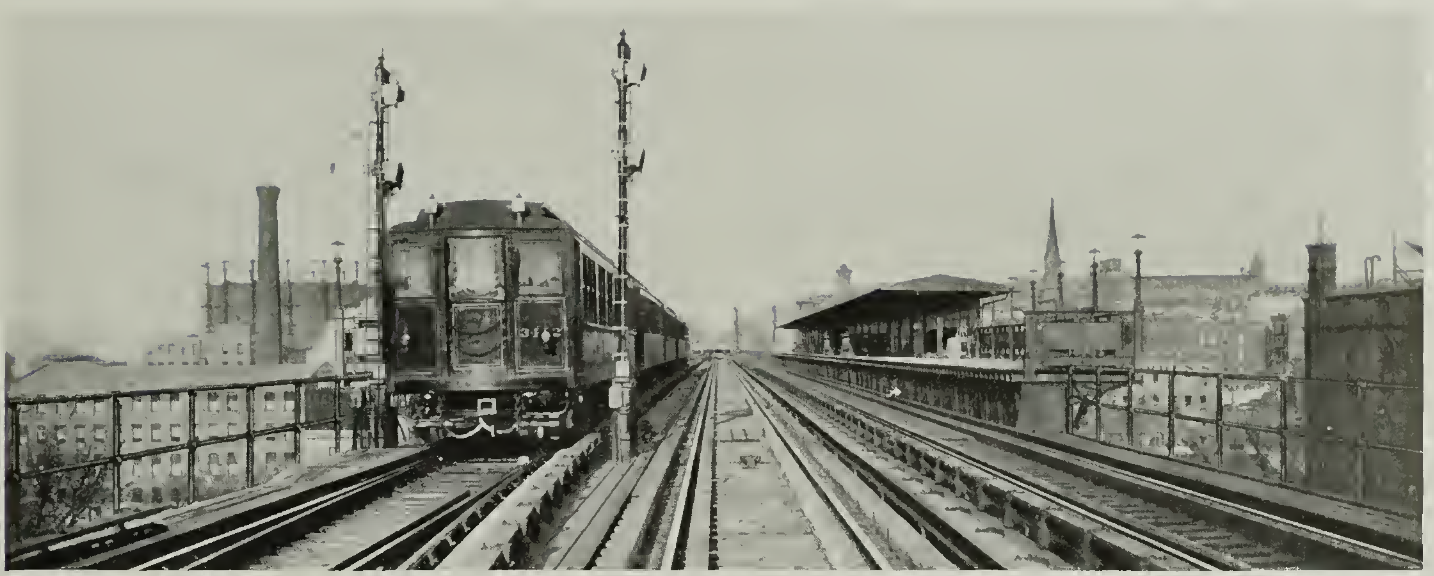
New York City, Subway Stair Enclosure



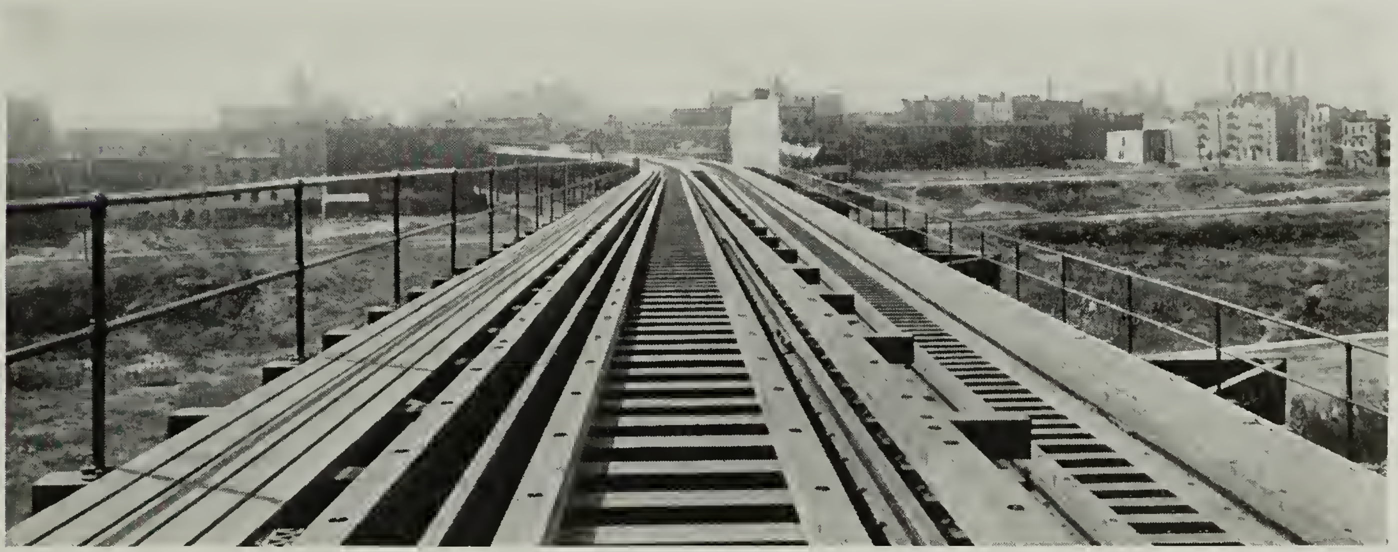
New York City—Subway Railings, Etc.



New York City—Subway Railing and Grilles



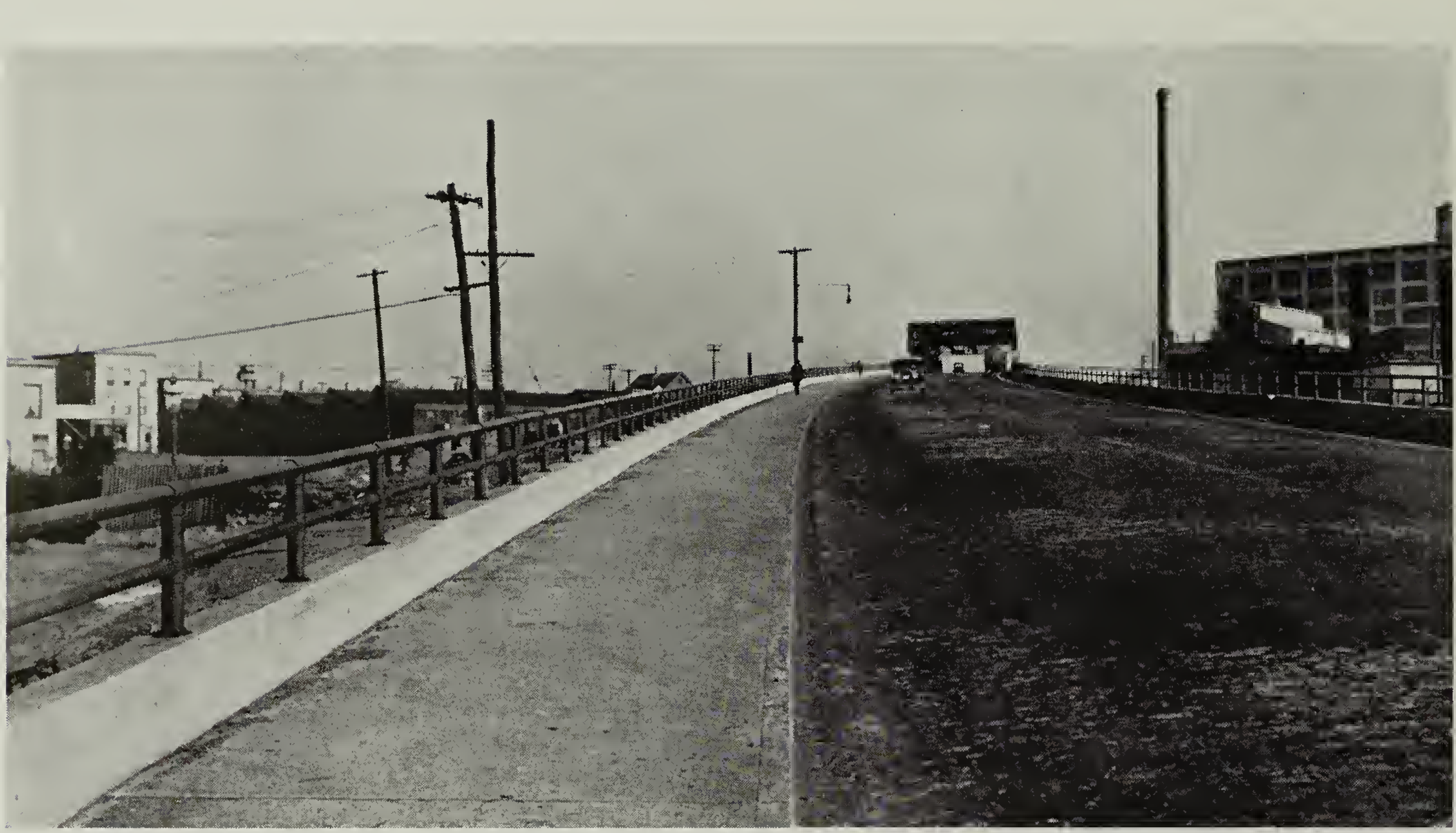
Pipe Railing, "Subway" Design—New York City



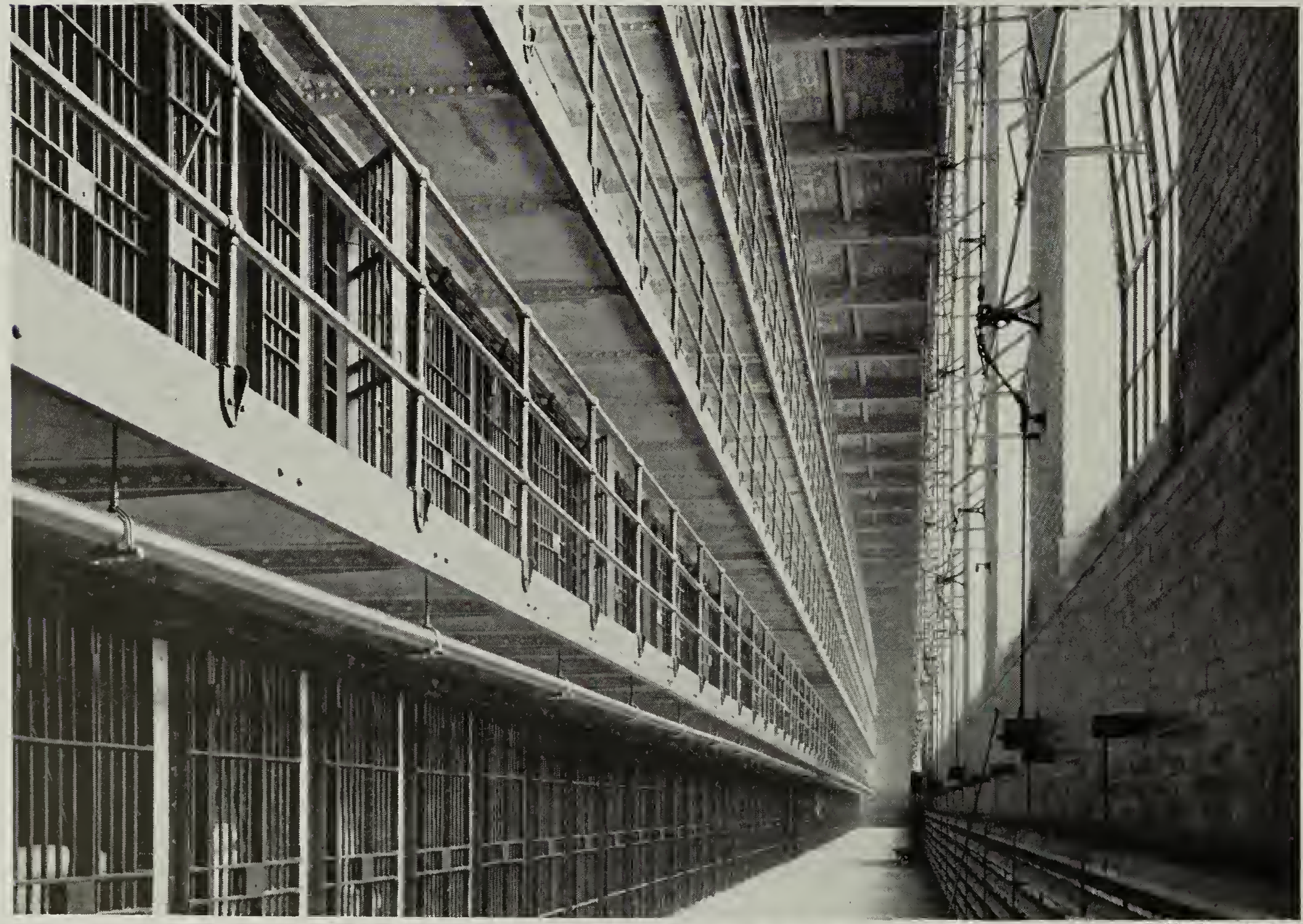
Pipe Railing, "B.R.T." Design—New York City

Pipe Railing, "Manhattan L"—New York City

Note: For detailed information relative to these Railings refer to page 27

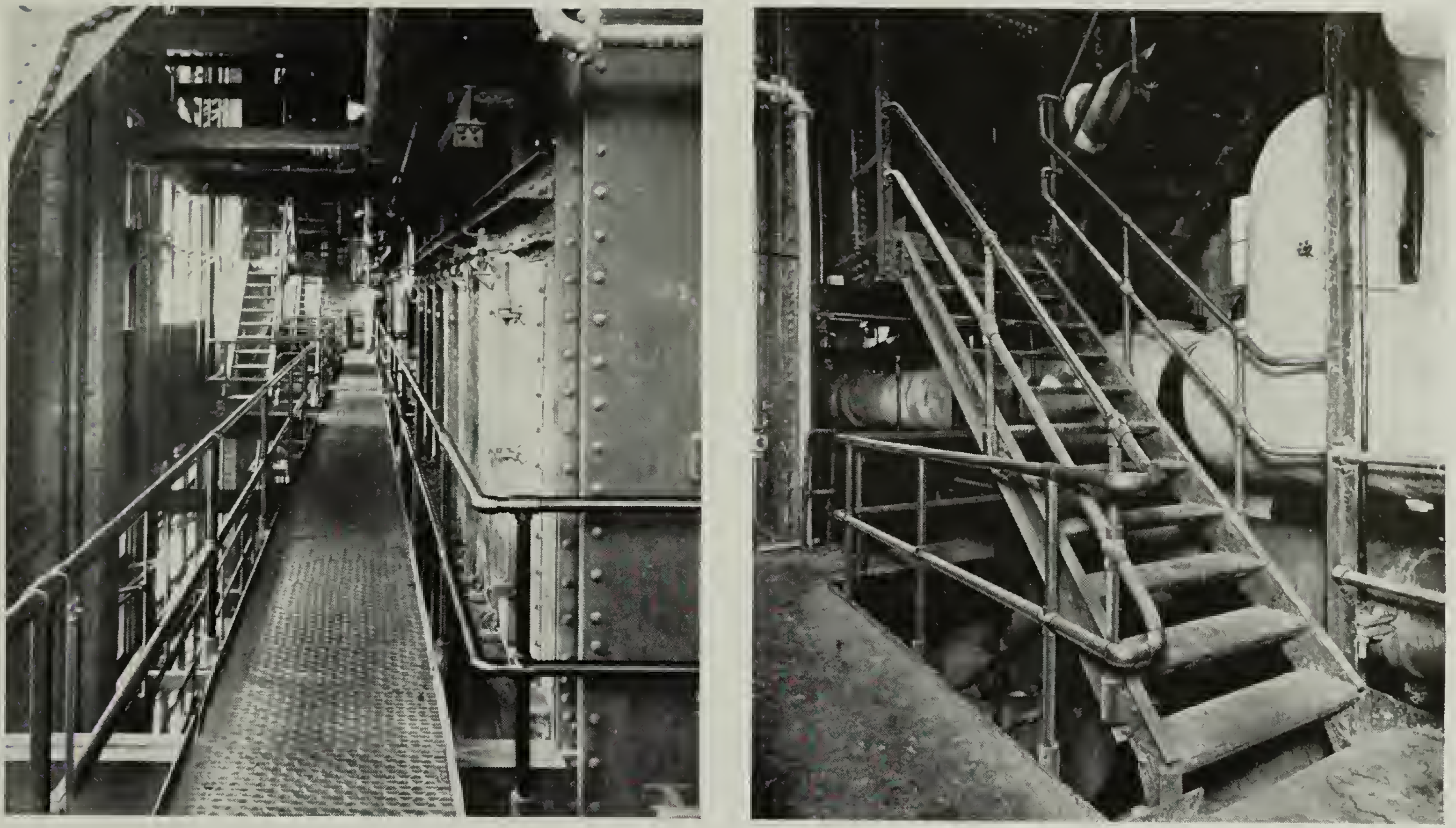


Lincoln Highway, Jersey City, N. J.—Pipe Railing

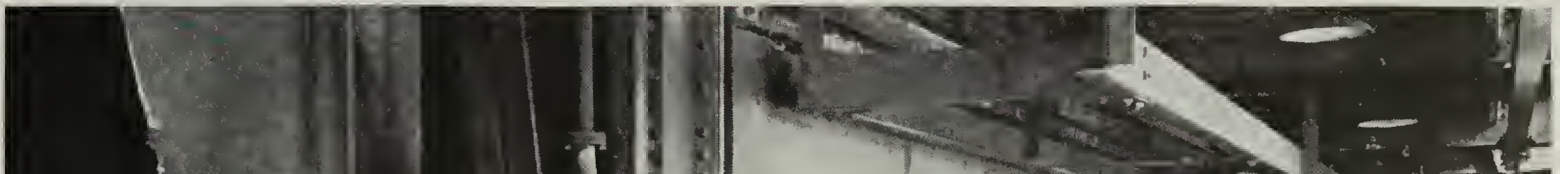


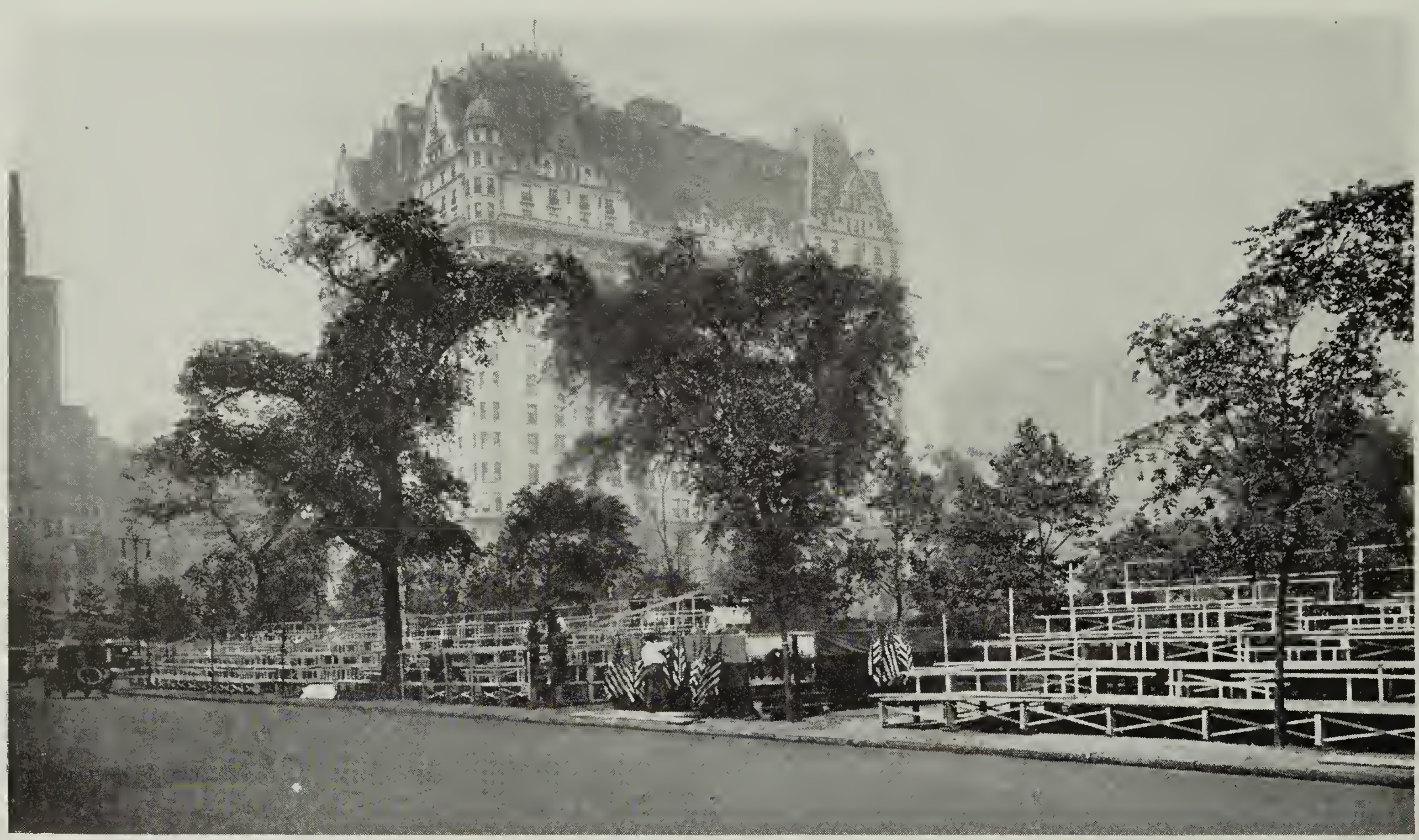
© Herbert Studios

Sing Sing Prison, New York—Pipe Railing, Etc.

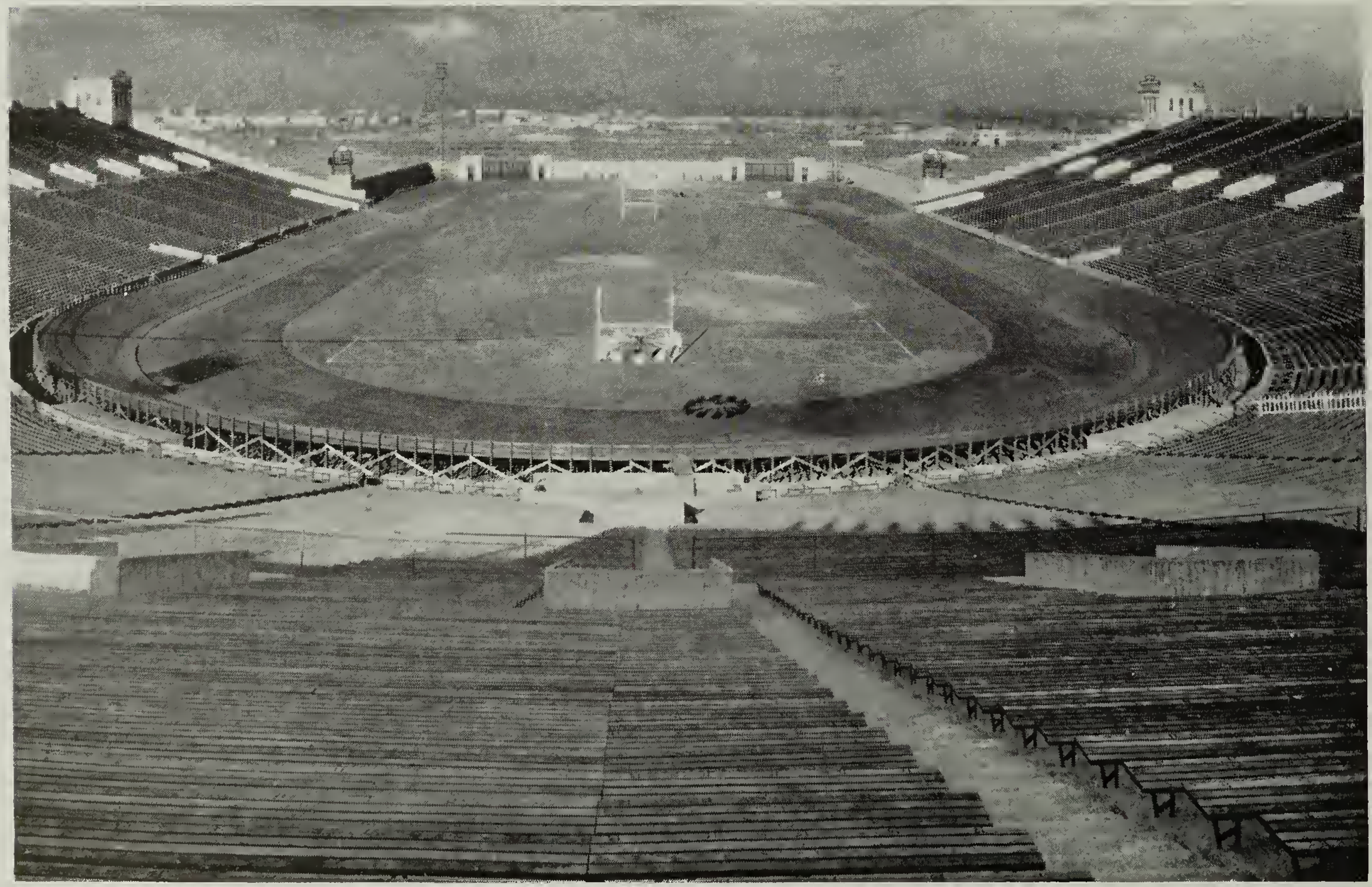


Typical Power Plant—Railings, Etc.

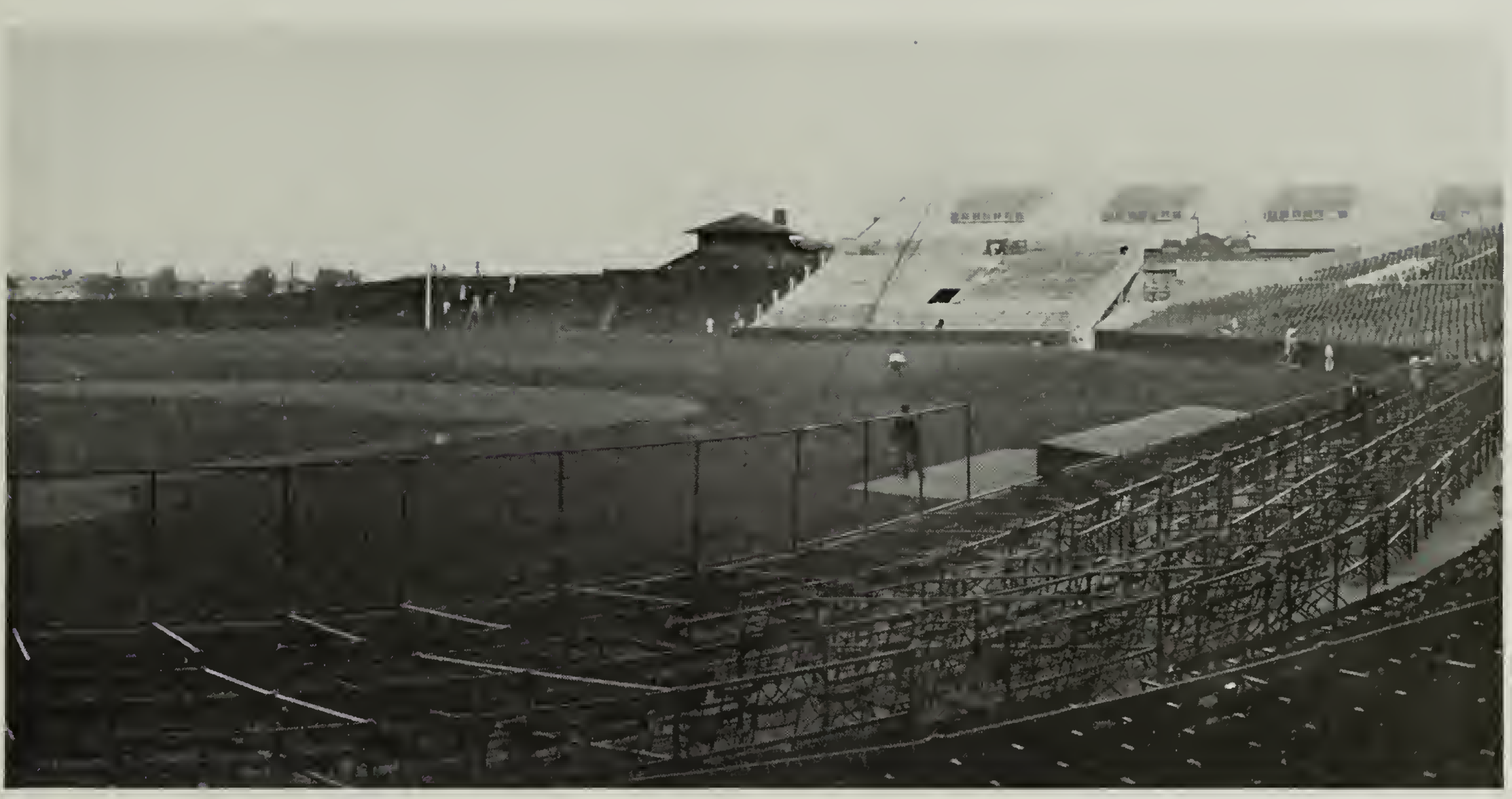




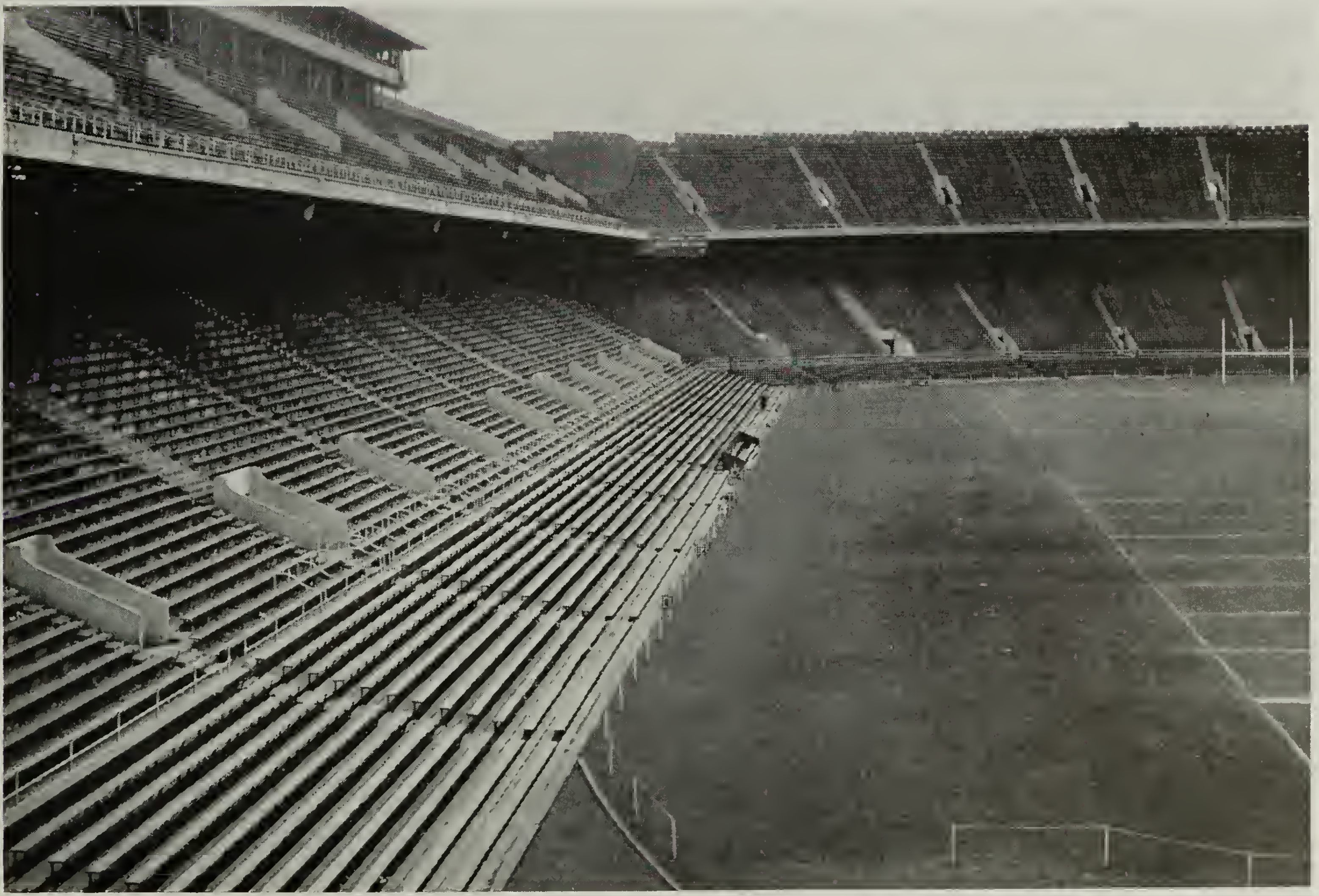
Vulcan Portable Grand Stand—New York City



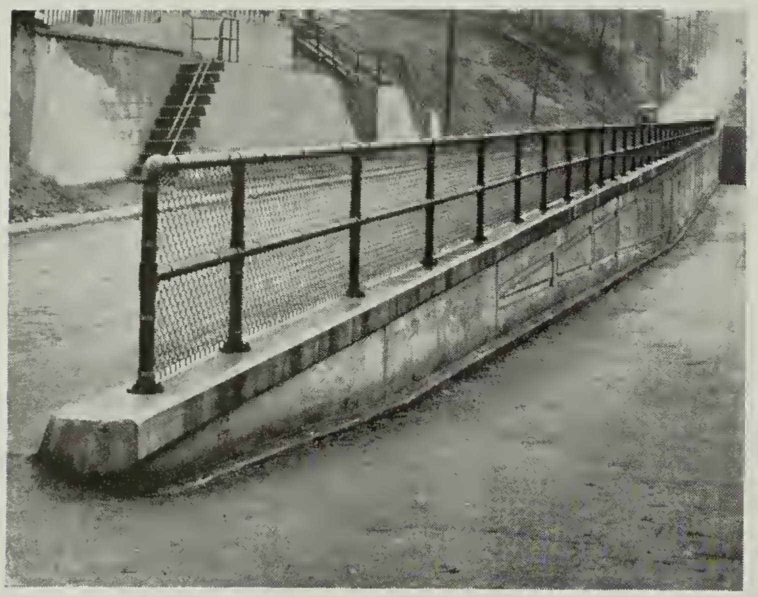
Municipal Stadium, Philadelphia, Penna.—Box Railings, Welded Ramp Railings, Etc.



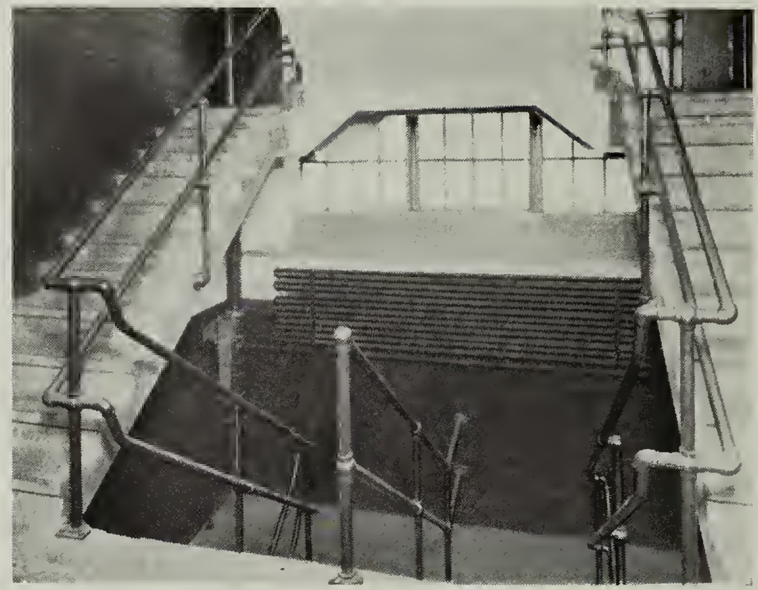
Braves Field, Boston, Mass.—Pipe Railing



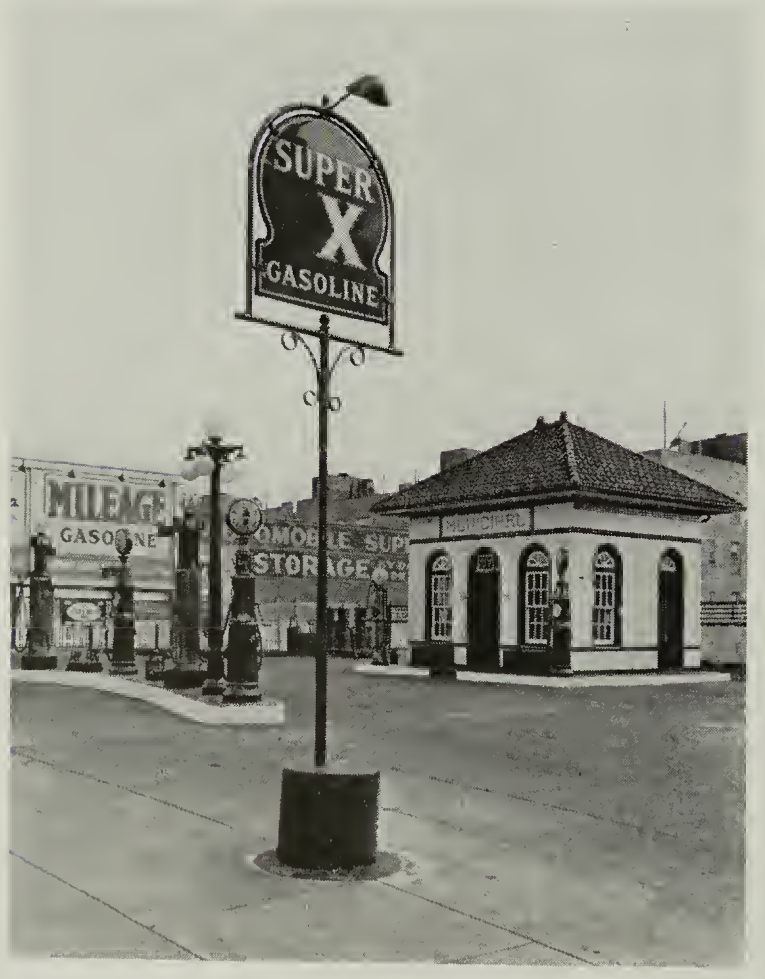
Franklin Field, University of Pennsylvania, Philadelphia, Penna.—Pipe Railing



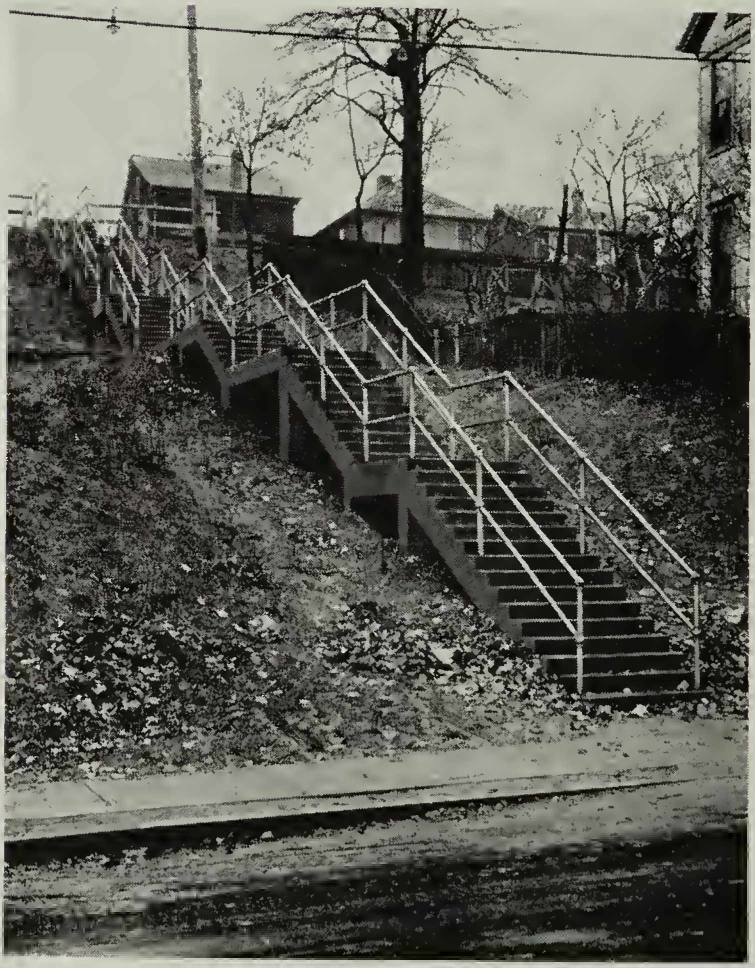
Retaining Wall Railing



Pipe Rail on Double Concrete Stairs



Pipe Post and Sign Frame

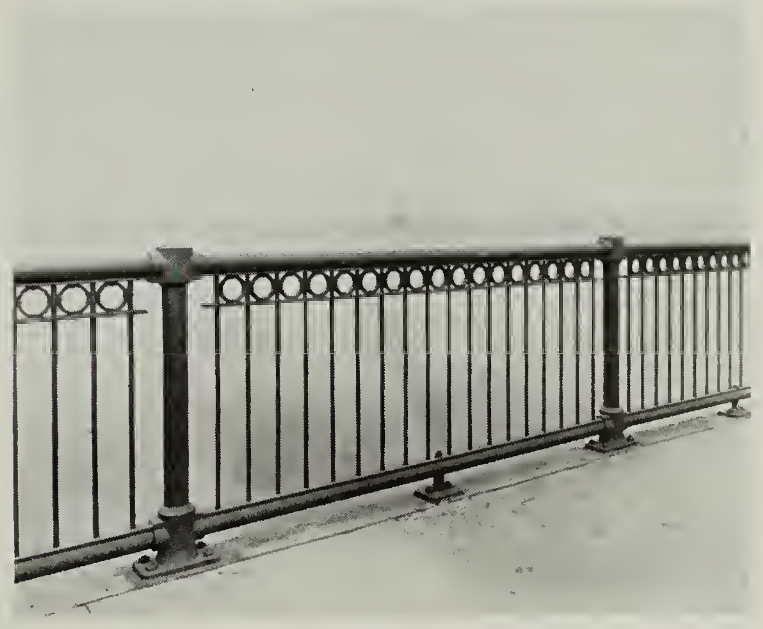


Exterior Stair Railing

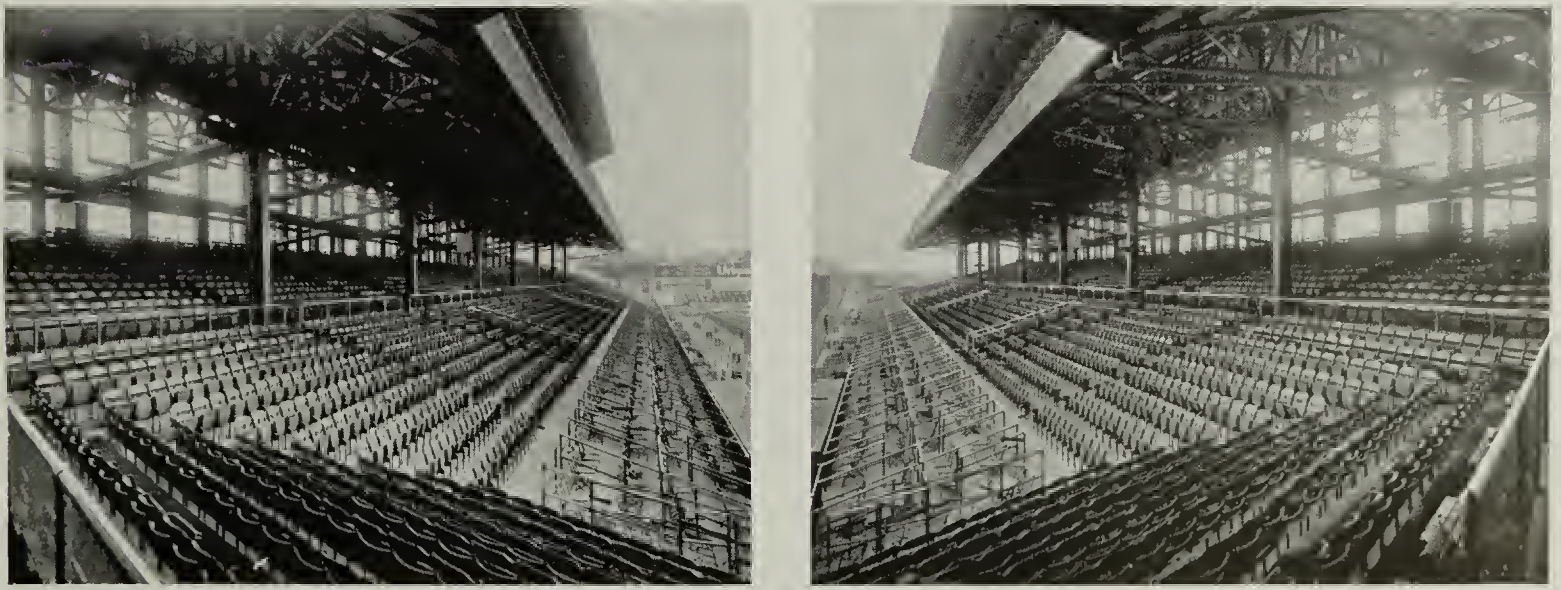
Bear Mountain-Hudson River Bridge
Bridge Railing

Sewage Treatment Works, Allentown, Pa.
Pipe Railing

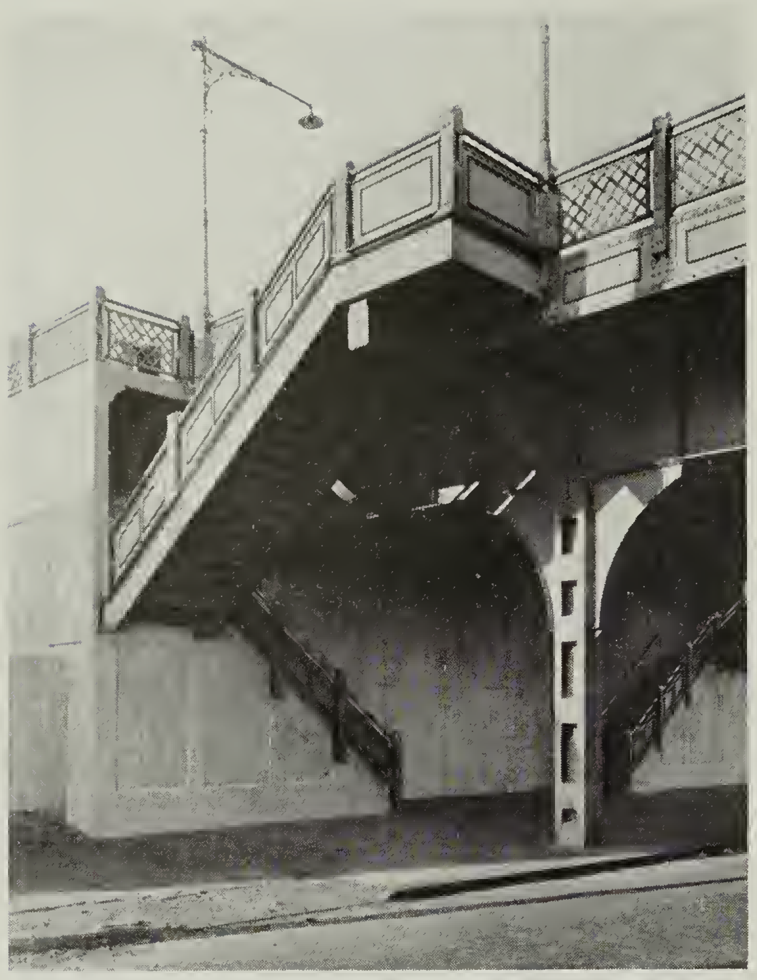
Polo Grounds, New York City
Pipe Railing



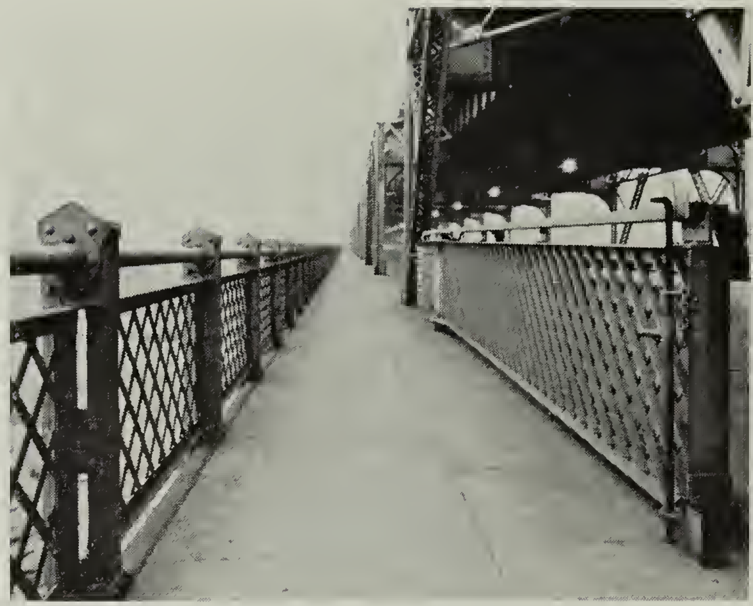
Highway Bridge, New Jersey
Bridge Railing



Ebbetts Field, Brooklyn, N. Y.
Ornamental Railings and Gates, Pipe Railings, Etc.

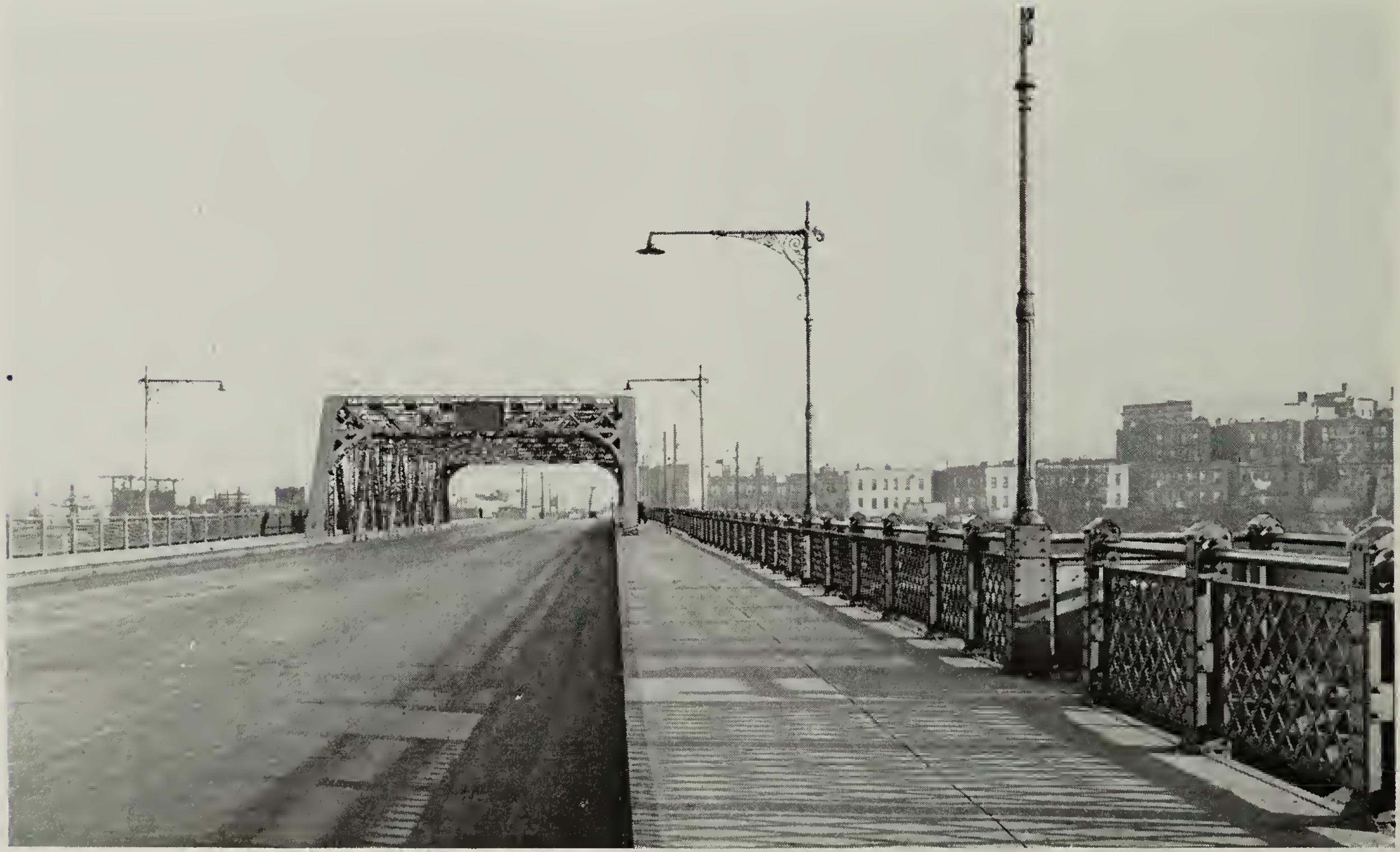


174th Street Bridge, New York City



Roosevelt Ave. Bridge over Flushing River
New York City

We furnished Bridge Railings, Lamp Posts, Roadway Gates, Pipe Railings, Stairs, Miscellaneous Metal Work.

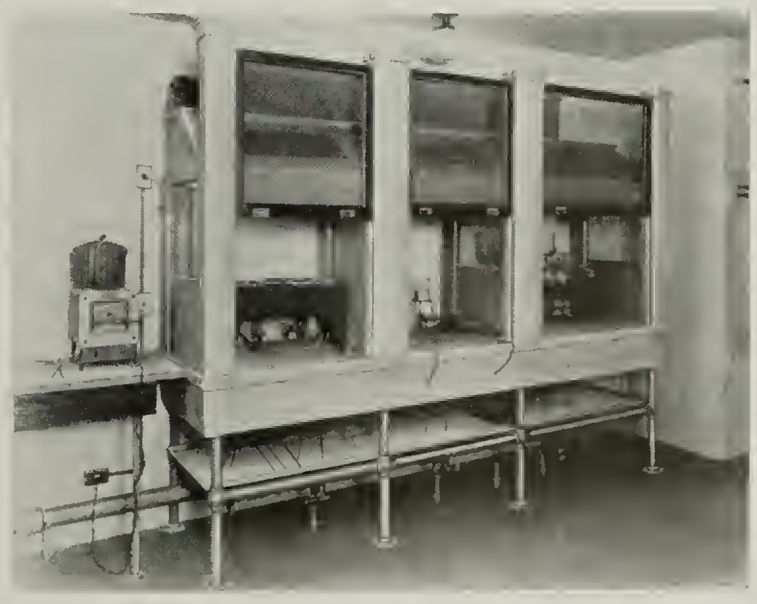


174th Street Bridge, New York City

TABLE SUPPORTS

WE HAVE furnished a large quantity of Table and Laboratory Equipment Supports similar to those shown as well as many other designs to meet special requirements.

We also fabricate Trunk Racks, Rug Racks, Manhole Guards, Sign Frames, Etc., of Pipe and Fittings.



CONCLUSION

IN THE preceding pages we have endeavored to give the maximum information regarding Pipe and Fittings as incorporated in Pipe Railings, Bridge Railings, and other construction where Pipe and Fittings form the basic principle. In addition we have shown a number of installations representative of work which we have installed throughout the country.

When requesting estimates it is suggested that inquiries be accompanied by blue prints or sketches of requirements with full dimensions and all possible information relative to size of pipe, type of fittings, finish, etc.

Inquiries for Pipe Railings should mention the number of posts required and the spacing between posts. When Pipe Railings are required for Stairs or Ramps, state the rise and tread, or bevel of same, and indicate whether Railings are to have one, two or three horizontal Rails and the method to be used for anchorage to foundation or support.

Unless otherwise advised our quotations will be based on furnishing Standard Weight Wrought Steel Pipe, Black, Painted one Shop coat. We will not include any erection bolts unless we quote on erection of material or are specifically requested to do so.

It is essential that the type of Fittings be specified. In the case of Stair Fittings, our quotations are always based on furnishing Vulcan Standard Ball Pattern.

When making layouts of Pipe Railing it is suggested that the bolt spacing of flanges as shown on details in this catalogue be adhered to.

The Vulcan Method of handling a Railing Contract is not merely the furnishing of Pipe, Fittings, and other Materials, but rather a System of fabricating and assembling such materials in an orderly and experienced manner. The requirements of each order are carefully studied and the fabrication is so planned as to insure the customer receiving a satisfactory and acceptable Product. It is our custom to ship Pipe Railings with the Posts assembled and the Rails cut, fitted and bent where required; Bridge Railings with the Panels assembled; shop marking the material to minimize field labor. Before shipment every order is carefully inspected and thoroughly checked with the Shop Layout and shipments are made in exact accordance with the instructions of our customer.